Mu-Ping Nieh, PhD.

CONTACT INFORMATION

Department of Chemical & Biomolecular Engineering (**CBE**)/Department of Biomedical Engineering (**BME**)/Institute of Materials Science (**IMS**), University of Connecticut (**UCONN**), Storrs, CT 06269, USA
Tel: 860-486-8708
Email: mu-ping.nieh@uconn.edu

EDUCATION

1998	Ph.D.	University of Massachusetts, Amherst Chemical Engineering/Polymer Science & Engineering
1989	B.Sc.	National Taiwan University (**NTU**), Taipei Chemical Engineering

APPOINTEMENTS

2022 – now	Regular Member	Connecticut Academy of Science and Engineering (**CASE**)
2019 – now	Professor	UCONN
2010 – 2019	Associate Professor	UCONN
2007 – 2010	Associate Research Officer	National Research Council, Canada (**NRC**) – Canadian Neutron Beam Centre (**CNBC**)
2005 – 2007	Assistant Research Officer	NRC-CNBC
2004 – 2005	Research Associate	NRC-CNBC/ University of Guelph
2001 – 2004	Visiting Fellow	NRC-CNBC, Chalk River Laboratories
1998 – 2001	Postdoctoral Researcher	National Institute of Standards & Technology (**NIST**) /Penn. State Univ. (**PSU**)

ACHIEVEMENTS

1. Organized sessions for the annual conferences of national scientific societies: “Biomembrane Synthesis, Structure, Mechanics, & Dynamics” (2014-now) and “Metrology of Characterization, Simulation & Theory of Biomembranes” (2015), symposia at American Chemical Society (**ACS**); “Structures and Dynamics of Biomimetic Membranes” focus sessions (2012, 2013) at the American Physical Society (**APS**).
2. Discovered novel aggregation-enhanced emission and aggregation-enhanced photoluminescence of atomically precise Au_{25}-clusters in nanodiscs.
3. Discovered that discoidal lipid nanoparticles have higher cellular uptake than liposomes do.
4. Designed/constructed Canadian first small angle neutron scattering (**SANS**) instrument based on the configuration of Triple-Axis Neutron Scattering Spectrometer.
5. Supervised 15 graduate and > 40 undergraduate students conducting research
6. Initiated a webinar about “small angle X-ray scattering (**SAXS**)” and organize a workshop of dynamic light scattering (**DLS**) at UCONN for industrial researchers.

EXPERIENCES

Research:

1. Designing generalized polymerization in well-defined templates to yield various polymeric nano-morphologies (e.g., nanoring, nanoweb, nanodisc, nanosheet…)
2. Constructing universal nanoparticle-in-nanodisc ($NANO^2$) platform for theranostics
3. Developing new (light, X-ray and neutron) scattering strategies to identify structures with the length scale from Å to micron – applicable for crystals, polymers, composites, micelles, colloids and aggregates.
4. Probing the structure-function relationship of surfactants, soft nanomaterial and biomaterials under various environments (flow, controlled temperature, salinity, humidity) and geometries (thin films, porous media)
5. Investigating kinetics of reaction- and diffusion- limited aggregation processes as well as spontaneous molecular transfer mechanism
6. Establishing the spontaneous structural diagram of external-field alignable phospholipid mixtures (“bicelles”) in solutions, commonly used as substrates for structural study on membrane-associated proteins
7. Developing low-cost, high-sensitivity, instrument-free pathogen-, cell- or toxin- detecting technology
8. Investigating the quenching mechanism of fluorescence-based polymer films for fast explosive detection

Teaching:

1. Offering Courses: "Polymeric Materials", "Intro to Chemical Engineering Thermodynamics I & II" *(core courses)*, "*Polymer Properties" (core course); "*Nano-Structural Characterization" – *UCONN, Lanzhou Univ. & Tamkang Univ.,*
2. Lecturing "Small Angle Neutron Scattering" (2013) & "High Flux Small-Angle X-ray Scattering on Biological Complex Structures" (2017) *@ Taiwan National Synchrotron Radiation Research Center*. *"Small Neutron Scattering" @ 2006, 2009, 2013 CNBC summer school*
3. Hosting research sites for training high school students to conduct 4-week research projects at the UCONN Mentor Connection program since 2012 as well as for high/middle school STEM teachers (4-weeks) at Joule program (organized by the School of Engineering, SoE, UCONN) since 2015.
4. Presenting the topic "Principle & Application of Nano-Materials in Biomedical Engineering" for middle and high school teachers at da Vinci Project (organized by SoE, UCONN) since 2013

EXPERIMENTAL EXPERTISE

Small Angle Scattering, Diffraction (Neutron, X-ray and Light), Microscopy (Optical and Electron), Fluorescent Spectroscopy, Differential Scanning Calorimetry

COMMITTEES

- Editorial board member for Journals, ***Sci. Rep*. (Nature Publishing Group)**, *Chem. Eng. & Proc. Tech*., *Indian J. Mat. Sci.* and *SOJ Mat. Sci. & Eng. Guest Editor for "Molecules" on the topic, "Phospholipid: Structures and Functions".*
- Reviewing neutron scattering beamtime proposals for NIST Center for Neutron Research, ORNL (Spallation Neutron Source and High Flux Isotope Reactor) as well as Center for Functional Nanomaterials (**CFN**) at Brookhaven Nat. Lab. (**BNL**) user Proposals.
- Grant proposal reviewer for National Science Foundation (**NSF**), National Institute of Health (**NIH**) and Department of Energy (**DoE**)
- Reviewer for publications in international prestigious journals e.g., *J. Am. Chem. Soc., Nature, Angewandte Chemie, Adv. Func. Mater., Adv. Mater., Small, Phys. Rev. Lett. etc*.

SCIENTIFIC OUTPUT (in APPENDICES)

Refereed Publications: 139 [w/ total **citations >** *5,200,* ***h-index= 37*** *(scopus),* **citations >** *6,700,* ***h-index= 41*** *(google scholar)*]; **In Press**: 0; **Patents**: 5; **Book Editing**: 2; **Invited Talks (after 2000)**: 101; **Book Chapters**: 9; **Conference Contributions**: 104

AWARDS/FUNDINGS

Funding (see appendix) Prior to UCONN: **$105K**

External **7 NSF grants** (5 as a PI and 2 as a co-PI); **3 GAANN grants** as a co-PI, Industrial Projects (Pfizer, Moderna therapeutix and Beohringer Ingelheim); **1 National Lab (LLNL) grant** as a co-PI; in total: **~ $5.0 M** (NSF: $2.17M, GAANN: $2.2M, LLNL: $60K, ORNL: $52K, and Industry: $400K)

Internal **4 UCONN grants as a PI** (Bioscience Pipeline, START, Research Excellence Program and Faculty Large Research Grant) **- $120K** or **co-PI** (Research Excellence Program) – **$25K**

Awards:

2023 – Presidential M1 Mentorship Award, the Cato T. Laurencin Institute for Regenerative Engineering, UCONN

2017 – 2018 Director's Award for Faculty Excellence, IMS, UCONN

2012 – 2013 Director's Award for Faculty Excellence, IMS, UCONN

2008 NRC – Steacie Institute for Molecular Sciences (SIMS) *"Significant Partnership"* Award

1986 – 1989 3 times of NTU "Book Coupon Awards" (for top 5% academic performance students)

**17 Awards to Advisees*

MEMBERSHIPS

CASE, APS, American Chemical Society, Biophysical Society, Neutron Scattering Society of America, Storrs Chinese Christian Church

***PATENTS*:**

- U. Roy, **M.-P. Nieh** "Nanodrugs for targeted drug delivery and use thereof" **2023** US Patent Application No.: 18041811
- R. Bahal, **M.-P. Nieh**, A. T. Rad, S. Malik "Discoidal nano universal platform for efficient delivery of PNAs" **2023** US Patent No. 11833254
- **M.-P. Nieh**, A. T. Rad, R. Amin, L. Daneshmandi "Multigel Tumor-on-a-Chip System" **2023** US Patent No. 11760966, **2024** US Patent App. 18/364,999,
- A. Abulrob, D. Stanimirovic; U. Iqbal, **M.-P. Nieh**, J. Katsaras "Antibody-targeted carrier for contrast agents" **2010** (EP 2367851 A1, WO 2010060217 A1), **2011** (US20110274617 A1).
- X. Qi, **M.-P. Nieh**, J. Katsaras "Spontaneously formed ellipsoidal phospholipid unilamellar vesicles" **2007** (US2007081880), **2009** (WO 2008051818 A8).

BOOK EDITING

- **M.-P. Nieh**, F. Heberle, J. Katsaras "Characterization of Biological Membranes: Structure and Dynamics", 2019 (De Gruyter STEM)
- G. Pabst, N. Kučerka, **M.-P. Nieh**, J. Katsaras "Liposomes, Lipid Bilayers and Model Membranes – From Basic Research to Application", 2014, CRC Press (Taylor & Francis Group),

BOOK CHAPTERS

- Y. Liu, Y. Xia, A. T. Rad, W. Aresh, J. M. Fang, **M.-P. Nieh 2023** "Stable Discoidal Bicelles: Formulation, Characterization, and Functions" in "**Liposomes: Methods and Protocols**" Ed. G. G. D'Souza, H. Zhang, pp. 147-157 (Springer) Stable Discoidal Bicelles: Formulation, Characterization, and Functions | SpringerLink
- Y. Xia, **M.-P. Nieh 2019** "Spontaneous Lipid Transfer Rate Constants", in "Characterization of Biological Membranes: Structure and Dynamics" Ed. **M.-P. Nieh**, F. Heberle, J. Katsaras, pp. 177-194 (De Gruyter STEM)
- Y. Liu, Y. Xia, A. T. Rad, W. Aresh, **M.-P. Nieh 2017** "Stable Discoidal Bicelles: A Platform of Lipid Nanocarriers for Cellular Delivery" in "**Liposomes: Methods and Protocols**" Ed. Gerard G.M. D'Souza, pp. 273-282 (Springer)
- J. Pan, N. Kučerka, **M.-P. Nieh**, F. A. Heberle, P. Drazba and J. Katsaras. **2014**. "Lipid Diversity and Its Implications for Membrane Organization" in "**Liposomes, Lipid Bilayers and Model Membranes – From Basic Research to Application**" Ed. G. Pabst, N. Kučerka, M.-P. Nieh, J. Katsaras, pp. 125-142, CRC Press (Taylor & Francis Group)
- N. Kučerka, **M.-P. Nieh** and J. Katsaras. **2010.** "*Small-Angle Scattering from Homogenous and Heterogeneous Lipid Bilayers"* in "**Advances in Planar Lipid Bilayers And Liposomes**" Vol. 12, Ed. A. Iglic and H. T. Tien, pp. 201 – 236. Academic Press (Elsevier Inc.)
- **M.-P. Nieh**, N. Kučerka and J. Katsaras. **2009.** "*Spontaneously Formed Unilamellar Vesicles"* in "**Methods in Enzymology**" Vol. 465, Ed. Nejat Düzgüneş, pp. 3 – 20. Academic Press (Elsevier)
- J. Katsaras, J. Pencer, **M.-P., Nieh**, T. Abraham, N. Kučerka and T. A. Harroun. **2008.** "*Neutron and X-Ray Scattering from Isotropic And Aligned Membranes."* in "**Structure And Dynamics of Membranous Interfaces**" Ed. K. Nag, pp. 107 – 134. Wiley.
- Pencer, J., T. T. Mills, N. Kučerka, **M.-P. Nieh** and J. Katsaras. **2007.** "*Small-Angle Neutron Scattering to Detect Rafts and Lipid Domains."* in "**Lipid Rafts**" Ed. T. J. McIntosh, pp. 231 - 244. The Humana Press Inc. (ISBN 13: 978-1-58829-729-7).
- J. Katsaras, V. A. Raghunathan, T. A. Harroun, **M.-P. Nieh**, M. Chakrapani, M. J. Watson. **2005.** "*Neutron Scattering from Biomaterials in Complex Sample Environments*." in "**Neutron Scattering in Biology - Techniques and Applications**". Ed. J. Fitter, T. Gutberlet, J. Katsaras, pp.107 – 126. Springer.

PEER-REVIEWED PUBLICATIONS

1. ***(Review Article)*** J. Amengual, L. Notaro-Roberts, **M.-P. Nieh** "Morphological control and modern applications of bicelles" ***Biophys. Chem.*** 302:107094 (2023). https://doi.org/10.1016/j.bpc.2023.107094
2. ***(Review Article)*** Y. Huang, **M.-P. Nieh**, W. Chen, Yu Lei "Outer membrane vesicles (OMVs) enabled bio-applications: A critical review" ***Biotechnol Bioeng***. 119:34–47 (2022).
3. ***(Review Article)*** Z. Shen, **M.-P. Nieh**, Y. Li "Decorating nanoparticle surface for targeted drug delivery: Opportunities and challenges" ***Polymers* 8**, 1–18 (2016)
4. ***(Review Article)*** G. Pabst, N. Kučerka, **M.-P. Nieh**, M. C. Rheinstädterm, J. Katsaras "Applications of Neutron And X-ray Scattering to the Study of Biologically Relevant Model Membranes" ***Chem. Phys. Lipid***. **163**, 460 – 479 (2010).
4. ***(Review Article)*** T. A. Harroun, N. Kučerka, **M.-P. Nieh** and J. Katsaras "Neutron and X-ray scattering for biophysics and biotechnology: examples of self-assembled lipid systems" ***Soft Matter* 5,** 2694-2703 (2009)
5. ***(Review Article)*** J. Katsaras, N. Kučerka and **M.-P. Nieh** "Structure from substrate supported lipid bilayers" ***Biointerphases* 3,** FB55-63 (2008).
6. ***(Review Article)*** N. Kučerka, **M.-P. Nieh**, J. Pencer, T. A. Harroun, J. Katsaras "The study of liposomes, lamellae and membranes using neutrons and X-rays" ***Curr. Opin. Colliod & Interf. Sci.,* 12,** 17-22 (2007).
7. ***(Review Article)*** J. Katsaras, T.A. Harroun, J. Pencer, T. Abraham, N. Kučerka and **M.-P. Nieh** "Small-angle neutron scattering and biomolecules" ***Physics in Canada,* 62,** 233-240 (2006).
8. ***(Review Article)*** J. Katsaras, T. A. Harroun, J. Pencer, **M.-P. Nieh** "Bicellar" lipid mixtures as used in biochemical and biophysical studies" ***Naturwissenschaften***, **92**, 355-366 (2005).
9. ***(Review Article)*** J. Katsaras, **M.-P. Nieh**, T. A. Harroun, M. Chakrapani, M. J. Watson "Neutron and X-ray scattering from biologically relevant materials" ***Physics in Canada*** March/April Issue 93-100 (2004).
10. K.-H. Wang, C.-H. Liu, D. H. Tan, **M.-P. Nieh***, W.-F. Su "Fluorinated polymer zwitterions on gold nanoparticles: patterned catalyst surfaces guide interfacial transport and electrochemical CO2 reduction " ***Nanoscale* (online)** (2024)
11. K.-H. Wang, C.-H. Liu, D. H. Tan, **M.-P. Nieh***, W.-F. Su "Block Sequence Effects on the Self-Assembly Behaviors of Polypeptide-Based Penta-Block Copolymer Hydrogels" ***ACS Appl. Mater. Interfaces.* 16,** 6674−6686 (2024) https://pubs.acs.org/doi/epdf/10.1021/acsami.3c18954
12. K.-C. Shih, G. Leriche, C.-H. Liu, J. He, V. T. John, J. Fang, J. G Barker, M. Nagao, L. Yang, J. Yang, **M.-P. Nieh*** "Antivesiculation and Complete Unbinding of Tail-Tethered Lipids" ***Langmuir.* 40**, 1688−1697 (2024) https://doi.org/10.1021/acs.langmuir.3c02663
13. Z. Wei, A. Vandergriff, C.-H. Liu, M. Liaqat, **M.-P. Nieh**, Y. Lei, J. He "Strongly coupled plasmonic metal nanoparticles with reversible pH-responsiveness and highly reproducible SERS in solution" ***Nanoscale.* 16**, 708-718 (2024) https://doi.org/10.1039/D3NR05071H
14. K. Zygadlo, C.-H. Liu, E. R. Bernardo, H. Ai, **M.-P. Nieh,** L. A. Hanson "Correlating structural changes in thermoresponsive hydrogels to the optical response of embedded plasmonic nanoparticles" ***Nanoscale Adv.* 6**, 146-154 (2024) https://doi.org/10.1039/D3NA00758H
15. H. Duan, Z. Jia, M. Liaqat, M. Mellor, H. Tan, **M.-P. Nieh**, Y. Lin, S. Link, C. Landes, J. He "Site-Specific Chemistry on Gold Nanorods: Curvature-Guided Surface Dewetting and Supracolloidal Polymerization" ***ACS Nano,* 17**, 12788–12797 (2023) Site-Specific Chemistry on Gold Nanorods: Curvature-Guided Surface Dewetting and Supracolloidal Polymerization | ACS Nano
16. C.-H. Liu, S. Kueger, **M.-P. Nieh** "Synthesis of Polymer Nanoweb via a Lipid Template" ***ACS Macro Lett.* 12,** 993-998, (2023) Synthesis of Polymer Nanoweb via a Lipid Template | ACS Macro Letters
17. Z. Wei, C.-H. Liu, Q. Luo, S. Thanneeru, A. M. Angeles-Boza, **M.-P. Nieh**, J. He "Hydrophobic pockets built in polymer micelles enhance the reactivity of Cu^{2+} ions " ***Mater. Chem. Front.*** 7, 2038-2048 (2023) https://doi.org/10.1039/D3QM00110E

18. V. Kasina, A. Wahane, C.-H. Liu, L. Yang, **M.-P. Nieh**, F. J. Slack, R. Bahal "Next-generation poly-L-histidine formulations for miRNA mimic delivery" ***Mol. Therapy: Methods & Clinical Develop.*** 29, 271–283 (2023) https://doi.org/10.1016/j.omtm.2023.03.015
19. W. Xian, C.-H. Liu, B. Kangarlou, S.-Y. Chang, C. Wu, Y. Cao, L. Sun, A. Ma, **M.-P. Nieh**, A. Maiti, A Saab, Y. Li "Effect of Diphenyl Content on Viscoelasticity of Poly(dimethyl-co-diphenyl)siloxane Melt and Network" ***ACS Appl. Polym. Mater.*** 5, 3, 1915–1925 (2023) Effect of Diphenyl Content on Viscoelasticity of Poly(dimethyl-co-diphenyl)siloxane Melt and Network | ACS Applied Polymer Materials
20. J. M. Fang, S. Basu, J. Phu, **M.-P. Nieh**, J. J. LoTurco "Cellular Localization, Aggregation and Cytotoxicity of Bicelle-Quantum Dot Nanocomposites " ***ACS Applied Bio. Mat***. **6**, 566−577 (2023) Cellular Localization, Aggregation, and Cytotoxicity of Bicelle-Quantum Dot Nanocomposites | ACS Applied Bio Materials
21. C.-H. Liu, C. Cheu, J. G. Barker, L. Yang, **M.-P. Nieh** "Facile polymerization in a bicellar template to produce polymer nano-rings" ***J. Colloid Interface Sci.*** **630,** 629–637 (2023) https://doi.org/10.1016/j.jcis.2022.09.141
22. B. Kangarlou, D. Hoy, H. L. Scott, S. V. Pingali, N. Khalil, B. Chung, J. Katsaras, **M.-P. Nieh** "Water Content in Nanoparticles Determined by Small-Angle Neutron Scattering and Light Scattering" ***Langmuir***, **39**, 1, 227–235 (2023). Water Content in Nanoparticles Determined by Small-Angle Neutron Scattering and Light Scattering | Langmuir (acs.org)
23. F. K. Masese, D. Ndaya, C.-H. Liu, N. Eddy, D. Morales-Acosta, **M.-P. Nieh**, R. Kasi "Self-Assembled Materials from Cellulose Nanocrystals Conjugated with a Thermotropic Liquid Crystalline Moiety" ***Soft Matter*** 18, 8165 - 8174 (2022)
24. W. Zheng, C.-H. Liu, **M.-P. Nieh**, C. J. Cornelius "Sulfonated Pentablock Copolymer Membrane Morphological Anisotropy and Its Impact on Dimensional Swelling, Proton Conductivity, and the Transport of Protons and Water" ***Macromolecules*** **55,** 20, 9269–9281 (2022)
25. C. R. Garcia, A. T Rad, F. Saeedinejad, A. Manojkumar, D. Roy, H. Rodrigo, S. A. Chew, Z. Rahman, **M.-P. Nieh**, U. Roy "Effect of Drug-to-Lipid Ratio on Nanodisc-Based Tenofovir Drug Delivery to the Brain for HIV-1 Infection" ***Nanomedicine 17,*** 959–978 (2022)
26. Z. Wei, C.-H. Liu, H. Duan, Q. Luo, M. Huang, S. Thanneeru, **M.-P. Nieh**, J. He "Self-Assembly of Gold Nanoparticles Grafted with Amphiphilic Supramolecular Block Copolymers" ***Giant***, **10,** 100102 (2022).
27. H. Duan, T. Malesky, J. Wang, C.-H. Liu, H. Tan, **M.-P. Nieh**, Y. Lin, J. He "Patchy Metal Nanoparticles with Polymers: Controllable Growth and Two-Way Self-Assembly" ***Nanoscale*** **14**, 7364–7371 (2022)***.***
28. I. Alahmadi, D. Hoy, Jr., A. Tahmasbi Rad, S. Patil, A. Alahmadi, J. Kinnun, H. Scott, J. Katsaras, **M.-P. Nieh** "Changes Experienced by Low-Concentration Lipid Bicelles as a Function of Temperature" ***Langmuir***, **38**, 4332−4340 (2022).
29. J. M. Fang, S. Basu, M. Li, K.-C. Shih, J. Wang, M. Cotlet, X. Wang, J. Zhao, T. J. Mountziaris, J. J. LoTurco, **M.-P. Nieh** "Restriction-In-Motion of Surface Ligands Enhances Photoluminescence of Quantum Dots—Experiment and Theory " ***Adv. Mater. Interfaces*** **9**, 2102079 (2022).
30. A. Tahmasbi Rad, D. Hargrove, L. Daneshmandi, A. Ramsdell, X. Lu, and **M.-P. Nieh** "Codelivery of Paclitaxel and Parthenolide in Discoidal Bicelles for a Synergistic Anticancer Effect: Structure Matters" ***Adv. NanoBiomed Res***., **2**, 2100080 (2022).
31. S. Malik, V. Kumar, C.-H. Liu, K.-C. Shih, S. Krueger, **M.-P. Nieh**, R. Bahal "Head on Comparison of Self- and Nano-Assemblies of Gamma Peptide Nucleic Acid Amphiphiles" ***Adv. Func. Mat.***, **32**, 2109552 (2022).
32. Wahane, S. Malik, K.-C. Shih, R. R. Gaddam, C. Chen, Y. Liu, **M.-P. Nieh**, A. Vikram, R. Bahal "Dual-Modality Poly-l-histidine Nanoparticles to Deliver Peptide Nucleic Acids and Paclitaxel for In Vivo Cancer Therapy" ***ACS Appl. Mat. Interf.*** **13**, 45244−45258 (2021).
33. B. Kangarlou, R. Dahanayake, I. J. Martin, D. Ndayac, C.-M. Wu, R. M. Kasi, E. E. Dormidontova, **M.-P. Nieh** "Flower-Like Micelles of Polyethylene Oxide End-Capped with Cholesterol" ***Macromolecules*** **54,** 8960−8970 (2021)

34. C.-H. Liu, H. Wang, L. Yang, Y. Liu, X. Li, **M.-P. Nieh*** "Nanocomplex Made of Antimicrobial Metallo-Supramolecule And Model Biomembranes – Characterization and Enhanced Fluorescence" ***Nanoscale* 13,** 14973-14979 (2021)***.***
35. L. Jin, C.-H. Liu, D. Cintron, Q. Luo, **M.-P. Nieh**, J. He "Structural Engineering in the Self-Assembly of Amphiphilic Block Copolymers with Reactive Additives: Micelles, Vesicles, and Beyond" ***Langmuir* 37**, 9865−9872 (2021).
36. R. Liu, R. Zhang, L. Li, Z. Kochovski, L. Yao, **M.-P. Nieh**, Y. Lu, T. Shi, G. Chen "A Comprehensive Landscape for Fibril Association Behaviors Encoded Synergistically by Saccharides and Peptides" ***J. Am. Chem. Soc.* 143**, 6622–6633 (2021).
37. A. T. Rad, Y. Bao, H.-S. Jang, Y. Xia, H. Sharma, E. Dormidontova, J. Zhao, J. Arora, V. T. John, B. Tang, T. Dainese, A. Hariri, J. V. Jokerst, F. Maran, **M.-P. Nieh*** "Aggregation-Enhanced Photoluminescence and Photoacoustics of Atomically Precise Gold Nanoclusters in Lipid Nanodiscs ($NANO^2$)" ***Adv. Func. Mat.* 31**, 2009750 (2021).
38. N. Shirolkar, A. Maffe, E. DiLoreto, P. J. Arias-Monje, M. Lu, J. Ramachandran, P. Gulgunje, K. Gupta, J. G. Park, K.-C. Shih, M. Hamza Kirmani, A. Sharits, D. Nepal, **M.-P. Nieh**, R. Liang, T. Tsotsis, S. Kumar "Multichannel Hollow Carbon Fibers: Processing, Structure, and Properties" ***Carbon***, **174**, 730-740 (2021)
39. G.-Q. Yin, S. Kandapal, C.-H. Liu, H. Wang, J. Huang, S.-T. Jiang, T. Ji, Y. Yan, S. Khalife, R. Zhou, L. Ye, B. Xu, H.-B. Yang, **M.-P. Nieh**, X. Li "Metallo-Helicoid with Double Rims: Polymerization Followed by Folding by Intramolecular Coordination" ***Angew. Chem. Int. Ed.* 60**, 1281–1289 (2021)
40. C. Cheu, L. Yang, **M.-P. Nieh*** "Refining Internal Bilayer Structure of Bicelles Resolved by Extended-q Small Angle X-Ray Scattering" ***Phys. Chem. Lipids***. **231**, 104945 (2020)
41. J. Hutchison, K.-C. Shih, H. A. Scheidt, S. Fantin, K. Parson, G. Pantepoulos, H. Harrington, K. M., S. Qian, R. A. Stein, S. E. Collier, M. G. Chambers, J. Katsaras, M. W. Voehler, B. T. Ruotolo, D. Huster, R. McFeeters, J. E. Straub, **M.-P. Nieh**, Charles R Sanders "Bicelles Rich in both Sphingolipids and Cholesterol and Their Use in Studies of Membrane Proteins" ***J. Am. Chem. Soc.* 142**, 12715-12729 (2020)
42. X. Lu, H. Fu, K.-C. Shih, F. Jia, Y. Sun, D. Wang, Y. Wang, S. Ekatan, **M.-P. Nieh***, Y. Lin*, K. Zhang* "DNA-Mediated Step-Growth Polymerization of Bottlebrush Macromonomers" ***J. Am. Chem. Soc.* 142**, 10297−10301 (2020)
43. J. Yang, Q. Du, L. Li, T. Wang, Y. Feng, **M.-P. Nieh**, J. Sheng, G. Chen* "Glycosyltransferase-Induced Morphology Transition of Glycopeptide Self-Assemblies with Proteoglycan Residues" ***ACS Macro. Lett.* 9**, 929-936 (2020)
44. K.-C. Shih, C.-Y. Su, S.-Y. Chang, G. Jensen, C.-C. Hua, **M.-P. Nieh***, H.-M. Lai* "Correlation of Hierarchical Structure and Rheological Behavior of Polypseudorotaxane Gel Composed of Pluronic and β-cyclodextrin", ***Soft Matter* 16**, 4990 – 4998 (2020).
45. I. Martin, K.-C. Shih, **M.-P. Nieh**, R. Kasi "Templated Supramolecular Structures of Multichromic, Multiresponsive Perylene Diimide-Polydiacetylene Films", ***Macromolecules* 53**, 4501 − 4510 (2020)
46. M. Li, W. T. Heller, C.-H. Liu, C. Y. Gao, Y. Cai, Y. Hou, **M.-P. Nieh** "Effects of Fluidity and Charge Density on the Morphology of a Bicellar Mixture – A SANS Study" ***Biochim. Biophys. Acta***., **1862**, 183315 (2020)
47. L. Jin, X. Su, J. Shi, K.-C. Shih, D. Cintron, T. Cai, **M.-P. Nieh**, O. Chen, S. L. Suib, M. Jain, J. He "Crystalline Mesoporous Complex Oxides: Porosity-Controlled Electromagnetic Response" ***Adv. Func. Mat.*** 1909491 (2020).
48. Y. Huang, A.O. Beringhs, Q. Chen, D. Song, W. Chen, X. Lu, T.-H. Fan, **M.-P. Nieh**, Y. Lei "Genetically Engineered Bacterial Outer Membrane Vesicles with Expressed Nanoluciferase Reporter for in Vivo Bioluminescence Kinetic Modeling through Noninvasive Imaging" ***ACS Appl. Bio Mater***., **2**, 5608-5615 (2019).
49. Y. Huang, H. Liu, W. Chen, **M.-P. Nieh**, Y. Lei "Genetically engineered bio-nanoparticles with co-expressed enzyme reporter and recognition element for IgG immunoassay" **Sensors Actuators Rep**., **1**, 100003 (2019)
50. Z. Li, S. Chen, C. Gao, Z. Yang, K.-C. Shih, Z. Kochovski, G. Yang, L. Gou, **M.-P. Nieh**, M. Jiang, L. Zhang, G. Chen. "Chemically Controlled Helical Polymorphism in Protein Tubes by

Selective Modulation of Supramolecular Interactions" ***J. Am. Chem. Soc.*** **141,** 19448−19457 (2019)

51. H. Wang, C.-H. Liu, K. Wang, M. Wang, H. Yu, S. Kandapal, R. Brzozowski, B. Xu, M. Wang, S. Lu, X.-Q. Hao, P. Eswara, **M.-P. Nieh**, J. Cai, X. Li "Assembling Pentatopic Terpyridine Ligands with Three Types of Coordination Moieties into a Giant Supramolecular Hexagonal Prism: Synthesis, Self-Assembly, Characterization, and Antimicrobial Study" ***J. Am. Chem. Soc.*** **141,** 16108-16116 (2019)
52. Sharber, A. Mann, K.-C. Shih, W. J. Mullin, **M.-P. Nieh**, S. Thomas "Directed polymorphism and mechanofluorochromism of conjugated materials through weak non-covalent control" ***J. Mat. Chem. C,*** **7**, 8316--8324 (2019)
53. A. T. Rad, S. Malik, L. Yang, T. K. Oberoi-Khanuja, **M.-P. Nieh**, R. Bahal "A universal discoidal nanoplatform for the intracellular delivery of PNAs" ***Nanoscale*** **11**, 12517–12529 (2019) – inside cover.
54. B. Deljoo, T. Jafari, R. Miao, **M.-P. Nieh**, S.L. Suib, M. Aindow "Surfactant selection as a strategy for tailoring the structure and properties of UCT manganese oxides" ***Materials and Design*** **180**, 107902 (2019).
55. A. T. Rad, C.-W. Chen, W. Aresh, Y. Xia, P.-S. Lai, **M.-P. Nieh** "Combinational Effects of Active Targeting, Shape, and Enhanced Permeability and Retention for Cancer Theranostic Nanocarriers" ***ACS Appl. Mat. & Interf***. **11**, 10505−10519 (2019).
56. K.-C Shih, Z. Shen, Y. Li, M. Kröger, S.-Y. Chang, Y. Liu, **M.-P. Nieh**, H.-M. Lai "What causes the anomalous aggregation in pluronic aqueous solutions?" ***Soft Matter,*** **14,** 7653 – 7663 (2018)***.***
57. S. Sharber, K.-C. Shih, A. Mann, F. Frausto, T. Haas, **M.-P. Nieh**, S. Thomas "Reversible Mechanofluorochromism of Aniline-Terminated Phenylene Ethynylenes", ***Chem. Sci.*** **9**, 5415–5426 (2018)
58. H.-S. Jang, H.-S. Cho, D. Uhrig, **M.-P. Nieh** "Insight into the interactions between pyrene and polystyrene for efficient quenching nitroaromatic explosives" ***J. Mat. Chem. C****,* **5**, 12466--12473 (2017)
59. F. Ding, J. Liu, S. Zeng, Y. Xia, K. M. Wells, **M.-P. Nieh**, L. Sun "Biomimetic nanocoatings with exceptional mechanical, barrier, and flame-retardant properties from large-scale one-step coassembly" ***Sci. Adv***. **3**: e1701212 (2017) https://www.science.org/doi/pdf/10.1126/sciadv.1701212
60. H. Xia, H. Fu, Y. Zhang, K.-C. Shih, Y. Ren, M. Anuganti, **M.-P. Nieh**, J. J. Cheng, Y. Lin "Supramolecular Assembly of Comb-like Macromolecules Induced by Chemical Reactions that Modulate the Macromolecular Interactions in Situ" ***J. Am. Chem. Soc.*** **139,** 11106-11116 (2017)
61. Z. Song, R. Mansbach, H. He , K.-C. Shih, R. Baumgartner, N. Zheng, X. Ba, Y. Huang, D. Mani, Y. Liu , Y. Lin, **M.-P. Nieh**, A. Ferguson, L. Yin, J. Cheng "Modulation of Polypeptide Conformation through Donor-Acceptor Transformation of Side-Chain Hydrogen Bonding Ligands" ***Nat. Commun.*** **8,** Art. No. 92 (2017)
62. F. Huang, W. Zheng, A. T. Rad, **M.-P. Nieh**, C. J. Cornelius "SiO_2–TiO_2 nanocomposites film morphology, solvent swelling, estimated C-parameter, and liquid transport" ***Polymer*** **123**, 247-257 (2017)
63. Y. Xia, H.-S. Jang, Z. Shen, G. D. Bothun, Y. Li, **M.-P. Nieh** "Effects of Membrane Defects and Polymer Hydrophobicity on Networking Kinetics of Vesicles" ***Langmuir*** **33,** 5745-5751 (2017)
64. D. S. Lye, Y. Xia, M. Z. Wong, Y. Wang, **M.-P. Nieh,** M. Weck "ABC Supramolecular Triblock Copolymer by ROMP and ATRP" ***Macromolecules*** **50,** 4244-4255 (2017)
65. R. Dey, Y. Xia, **M.-P. Nieh**, P. Burkhard: "Molecular design of a minimal peptide nanoparticle" ***ACS Biomat. Sci. Eng***. 3, 724-732 (2017)
66. A. Naderi, A. Koschella, T. Heinze, K.-C. Shih, **M.-P. Nieh**, A. Pfeifer, C.-C. Chang, J. Erlandsson "Sulfoethylated nanofibrillated cellulose: production and properties" ***Carbohydrate Polymers*** **169**, 515-523 (2017)
67. I. Guryanov, F. Polo, E. V. Ubyvovk, E. Korzhikova-Vlakh, T. Tennikova, A. T. Rad, M.-P. Nieh, F. Maran "Polylysine-grafted Au 144 nanoclusters: birth and growth of a healthy surface-plasmon-resonance-like band" ***Chem. Sci.,*** **8,** 3228-3238 (2017).

68. D. Jaiswal, A. T. Rad, **M.-P. Nieh**, K. P. Claffey, K. Hoshino "Micromagnetic Cancer Cell Immobilization and Release for Real-Time Single Cell Analysis" ***J. Magn. & Magn. Mat.* 427,** 7-13 (2017).
69. F. Huang, A. T. Rad, W. Zheng, **M.-P. Nieh**, C. J. Cornelius "The role of TEOS-TIP within a pentablock ionomer: Morphology, physical properties, and ion transport" ***J. Polym. Sci. B: Polym. Phys***. **55**, 575-586 (2017)
70. F. Huang, A. T. Rad, W. Zheng, **M.-P. Nieh**, C. J. Cornelius "Hybrid organic-inorganic 6FDA-6pFDA and multi-block 6FDA-DABA polyimide SiO_2–TiO_2 nanocomposites: Synthesis, FFV, FTIR, swelling, stability, and X-ray scattering" ***Polymer* 108**, 105-120 (2017)
71. W. Aresh, Y. Liu, J. Sine, D. Thayer, A. Puri, Y. Huang, Y. Wang, **M.-P. Nieh** "The Morphology of Self-Assembled Lipid-Based Nanoparticles Affects Their Uptake by Cancer Cells" ***J. Biomed. Nanotechnol.* 12**, 1852–1863 (2016)
72. Y. Xia, K. Charubin, D. Marquardt, F. A. Heberle, J. Katsaras, J. Tian, X. Cheng, Y. Liu, **M.-P. Nieh** "Morphology-Induced Defects Enhance Lipid Transfer Rates" ***Langmuir* 32,** 9757−9764 (2016).
73. T. Wang, Q. Hu, M. Zhou, Y. Xia, **M.-P. Nieh**, Y. Luo "Development of "all natural" layer-by-layer redispersible solid lipid nanoparticles by nano spray drying technology" ***Eur. J. Pharm. & Biopharm.* 107**, 273-285 (2016).
74. R. R Oleynik, Y. Xia, **M.-P. Nieh**, D. Day "Aggregation of Phospholipid Based Vesicle Using Triblock Polymer" ***MRS Advances***, **1**, 3749-3754 (2016).
75. G. Indelicato, N. Wahome, P. Ringler, S. A. Müller, **M.-P. Nieh**, P. Burkhard, R. Twarock "Principles Governing the Self-Assembly of Coiled-Coil Protein Nanoparticles" ***Biophys. J.* 110**, 646–660 (2016).
76. C.-F. Lee, G.-M. Zhang, **M.-P. Nieh**, T.-M. Don "Morphology and opto-thermal properties of the thermo-responsive PNIPAAm-protected gold nanorods" ***Polymer* 84**, 138-147 (2016)
77. Y. Xia, M. Li, Y. Liu, F. A. Heberle, J. Katsaras, B. Jing, Y. Zhu, **M.-P. Nieh** "Effects of Nanoparticle Morphology and Acyl Chain Length on Spontaneosuly Lipid Transfer Rate" ***Langmuir* 31,** 12920−12928 (2015).
78. J. Jin, W. A. Hines, C.-H. Kuo, D. M. Perry, A. S. Poyraz, Y. Xia, T. Zaidi, **M.-P. Nieh**, S. L. Suib "Magnetic Studies of Mesoporous Nanostructured Iron Oxide Materials Synthesized by One-Step Soft-Templating" ***Dalton Trans***. **44**, 11943–11953 (2015).
79. Y. Xia, M. Li, N. Kučerka, S. Li, **M.-P. Nieh** "In-situ temperature-controllable shear flow device for neutron scattering measurement—An example of aligned bicellar mixtures " ***Rev. Sci. Instrum.* 86**, 025112 (2015).
80. H.-S. Jang, J. Zhao, Y. Lei, **M.-P. Nieh** "Unique Effects of the Chain Lengths and Anions of Tetraalkylammonium Salts on Quenching Pyrene Excimer" ***ACS Appl. Mater. Inter.* 6,** 14801−14811 (2014).
81. X. Sun, C. Brückner, **M.-P. Nieh,** Y. Lei "A fluorescent polymer film with self-assembled three-dimensionally ordered nanopores: preparation, characterization and its application for explosives detection " ***J. Mater. Chem. A. 2,*** 14613–14621 (2014).
82. A. Hu, T.-H. Fang, J. Katsaras, Y. Xia, M. Li, **M.-P. Nieh** "Lipid-Based Nanodiscs as Models for Studying Mesoscale Coalescence - A Transport Limited Case" ***Soft Matter* 10,** 5019–5222 (2014) – inside cover.
83. Y. Liu, M. Li, Y. Yang, Y. Xia, **M.-P. Nieh** "The Effects of Temperature, Salinity, Concentrations and PEGylated Lipid on the Spontaneous Nanostructures of Bicellar Mixtures" ***Biochim. Biophys. Acta. – Biomembr,* 1838,** 1871–1880 (2014)***.***
84. X. Sun, Y. Liu, S. Mopidevi, Y. Meng, F. Huang, J. Parisi, **M.-P. Nieh**, C. Cornelius, S. L. Suib, Y. Lei "Super-hydrophobic "smart" sand for buried explosive detection" ***Sensors and Actuators, B* 195**, 52-57 (2014).
85. M. Li, H. H. Morales, J. Katsaras, N. Kučerka, Y. Yang, P. M. Macdonald, **M.-P. Nieh** "Morphological Characterization of DMPC/CHAPSO Bicellar Mixtures: A Combined SANS and NMR Study" ***Langmuir* 29,** 15943−15957 (2013).

86. H.-S. Jang, Y. Wang, Y. Lei, **M.-P. Nieh** "Controllable Formation of Pyrene ($C_{16}H_{10}$) Excimers in Polystyrene/Tetrabutylammonium Hexafluorophosphate Films through Solvent Vapor and Temperature Annealing" ***J. Phys. Chem. – C.*** **117**, 1428−1435 (2013).
87. S. Mahabir, D. Small, M. Li, W. Wan, N. Kučerka, K. Littrell, J. Katsaras, **M.-P. Nieh** "Growth kinetics of lipid-based nanodiscs to unilamellar vesicles—A time-resolved small angle neutron scattering (SANS) study" ***Biochim Biophys Acta – Biomembr.*** **1828**, 1025-1035 (2013).
88. C.-Y. Hsu, **M.-P. Nieh**, P.-S Lai "Facile self-assembly of porphyrin-embedded polymeric vesicles for theranostic applications" ***Chem. Comm,*** **48**, 9343–9345 (2012) – cover.
89. **M.-P. Nieh**, P. Dolinar, N. Kučerka, S. R. Kline, L. M. Debeer-Schmitt, K. C. Littrell, J. Katsaras "Formation of Kinetically Trapped Nanoscopic Unilamellar Vesicles from Metastable Nanodiscs" ***Langmuir***, **27**, 14308-14316 (2011)
90. N. Kučerka, **M.-P. Nieh**, J. Katsaras "Fluid phase lipid areas and bilayer thicknesses of commonly used phosphatidylcholines as a function of temperature" ***Biochim Biophys Acta – Biomembr.*** **1808**, 2761-2771 (2011)
91. M. Alexander, **M.-P. Nieh**, M. A. Ferrer, M. Corredig "Changes in the calcium cluster distribution of ultrafiltered and diafiltered fresh skim milk as observed by small angle neutron scattering" ***J. Dairy Res.*** **78**, 349-356 (2011)
92. **M.-P. Nieh**, V. A. Raghunathan, G. Pabst, T. A. Harroun, K. Nagashima, H. Morales, J. Katsaras, and P. M. Macdonald "Temperature Driven Annealing of Perforations in Bicellar Model Membranes" ***Langmuir***, **27**, 4838-4847 (2011)
93. U. Iqbal, H. Albaghdadi, **M.-P. Nieh**, U. I. Tuor, Z. Mester, D. Stanimirovic,J. Katsaras, A. Abulrob "Small unilamellar vesicles: a platform technology for molecular imaging of brain tumors" ***Nanotechnology***, **22**, 195102 (2011)
94. Y. Guo, C. Mulligan, **M.-P. Nieh** "An Unusual Morphological Transformation of Rhamnolipid Aggregates Induced by Concentration And Addition of Styrene: A Small Angle Neutron Scattering (SANS) Study" ***Colloids Surf. A***., **373**, 42-50 (2011).
95. **M.-P. Nieh**, N. Kučerka, J. Katsaras "Formation Mechanism of Self-Assembled Unilamellar Vesicles" **Can. *J. Phys.***, **88**, 735-740 (2010).
96. N. Kučerka, D. Marquardt, T. A. Harroun, **M.-P. Nieh**, S. R. Wassall, D. H. De Jong, L. V. Schäfer, S. J. Marrink, J. Katsaras "Cholesterol in bilayers with PUFA chains: Doping with DMPC or POPC results in sterol reorientation and membrane-domain formation" ***Biochemistry***, **49**, 7485–7493 (2010).
97. S. Mahabir, W. K. Wan, J. Katsaras, **M.-P. Nieh** "The Effects of Charge Density And Thermal History on the Morphologies of Spontaneously Formed Unilamellar Vesicles" ***J. Phys. Chem. – B.*** **114**, 5729-5735 (2010).
98. R. Soong, **M.-P. Nieh**, E. Nicholson, J. Katsaras, P. M. Macdonald "Pluronic F68 in Bicelles: Phase Structure and Lateral Diffusion from Combined SANS and PFG NMR Studies" ***Langmuir*** **26,** 2630-2638 (2010).
99. D. C. Bay, R. A. Budiman, **M.-P. Nieh** and R. J. Turner "Multimeric Forms of the Small Multidrug Resistance Protein EmrE in Anionic Detergent" ***Biochim. Biophys. Acta- Biomembranes*** **1798,** 526-535 (2010).
100. N. Kučerka, **M.-P. Nieh**, J. Katsaras "Asymmetric Distribution of Cholesterol in Unilamellar Vesicles of Monounsaturated Phospholipids" ***Langmuir,*** **25,** 13522-13527 (2009).
101. N. Kučerka, D. Marquardt, T. A. Harroun, **M.-P. Nieh**, S. R. Wassall, J. Katsaras "The Functional Significance of Lipid Diversity: Orientation of Cholesterol in Bilayers is Determined by Lipid Species." ***J. Am. Chem. Soc.,*** **131,** 16358-16359 (2009).
102. X. Gao, N. Kučerka, **M.-P. Nieh**, J. Katsaras, S. Zhu, J. L. Brash and H. Sheardown "Chain conformation of a new class of PEG-based thermoresponsive polymer brushes grafted on silicon as determined by neutron reflectometry" ***Langmuir*****, 25,** 10271-10278 (2009).
103. N. Kučerka, **M.-P. Nieh**, J. Pencer, J. N. Sachs, J. Katsaras "What determines the thickness of a biological membrane" ***General Physiol. & Biophys.*****, 28**, 117-125 (2009).
104. S. Hudson, J. Hutter, **M.-P. Nieh**, J. Pencer, L. Millon, W. K. Wan "Characterization of anisotropic poly(vinyl alcohol) hydrogel by small- and ultra small-angle neutron scattering" ***J. Chem. Phys.*****,** **130**, 034903 (2009).

105. **M.-P. Nieh,** Z. Yamani, N. Kučerka, J. Katsaras, D. Burgess, H. Breton "Adapting a Triple-axis Spectrometer for Small Angle Neutron Scattering Measurement" ***Rev. Sci. Instrum.,*** **79,** 095102 (2008).
106. **M.-P. Nieh**, M. D. Guiver, D. S. Kim, J. Ding, T. Norsten "Morphology of Comb-Shaped Proton Exchange Membrane (PEM) Copolymers Based on a Neutron Scattering Study" ***Macromolecules,*** **41,** 6176-6182 (2008).
107. N. Kučerka, E. Papp-Szabo, **M.-P. Nieh**, T. A. Harroun, S. R. Schooling, J. Pencer, E. A. Nicholson, T. J. Beveridge, J. Katsaras "Effect of Cations on the Structure of Bilayers Formed by Lipopolysaccharides Isolated from *Pseudomonas aeruginosa* PAO1" ***J. Phys. Chem. B*** **112**, 8057-8062 (2008).
108. **M.-P. Nieh**, J. Katsaras, X. Qi "Controlled release mechanisms of spontaneously forming unilamellar vesicles", ***Biochim. Biophys. Acta - Biomembranes*** **1778**, 1467-1471 (2008).
109. B. Dahrazma, C. N. Mulligan, **M.-P. Nieh** "Effects of additives on the structure of rhamnolipid (biosurfactant): a small-angle neutron scattering (SANS) study" ***J. Colloid & Interface Sci.*** **319,** 590-593 (2008).
110. J. Pencer, A. Jackson, N, Kučerka, **M.-P. Nieh**, J. Katsaras "The influence of curvature on membrane domains", ***Eur. Biophys. J.*** **37,** 665-671 (2008).
111. N. Kučerka, J. Pencer, **M.-P. Nieh**, and J. Katsaras "Influence of cholesterol on the bilayer properties of monounsaturated phosphatidylcholine unilamellar vesicles" ***Eur. Phys. J. E.*** **23,** 247-254 (2007).
112. W. Feng, **M.-P. Nieh**, S. Zhu, T. A. Harroun, J. Katsaras, J. L. Brash "Characterization of protein resistant grafted methacrylate polymer layers bearing oligo(ethylene glycol) and phosphorylcholine side chains by neutron reflectometry" ***Biointerphases,*** **2,** 34-43 (2007).
113. L. E. Millon, **M.-P. Nieh**, J. Hutter, W.-K. Wan "SANS characterization of an anisotropic polyvinyl alcohol hydrogel with vascular applications" ***Macromolecules***, **40,** 3655-3662 (2007)
114. T. Abraham, S. R. Schooling, **M.-P. Nieh**, N. Kucerka, T. J. Beveridge, J. Katsaras "Neutron diffraction study of pseudomonas aeroginosa lipopolysaccharide bilayers" ***J. Phys. Chem. B***., **111**, 2477-2483 (2007).
115. **M.-P. Nieh**, J. Pencer, J. Katsaras, X. Qi "Spontaneously formed bimodal phospholipid unilamellar ellipsoidal vesicles and their interactions with helical domains of saposin C", ***Langmuir***, **22,** 11028-11033 (2006).
116. D. Dee, J. Pencer, **M.-P. Nieh**, S. Krueger, J. Katsaras, R. Yada "Comparison of solution structures and stabilities of native, partially unfolded and partially refolded pepsin", ***Biochemistry***, **45**, 13982-13992 (2006)
117. **M.-P. Nieh**, V. A. Raghunathan, C.-Y. Huang, J. Pencer, T. A. Harroun, J. Katsaras "Spontaneously forming unilamellar nano-sized vesicles – polydispersity, size, shape and stability" ***NSTI-Nanotech,*** **2,** 709-712 (2006).
118. T. A. Harroun, C. M. Desrochers, **M.-P. Nieh**, M. J. Watson, J. Katsaras "0.9 T static magnetic field and temperature-controlled specimen environment for use with general-purpose optical microscopes", ***Rev. Sci. Instrum.***, **77**, 014102 (2006).
119. J. Pencer, **M.-P. Nieh**, T. A. Harroun, S. Krueger, C. Adams and J. Katsaras "Bilayer thickness and thermal response Of DMPC unilamellar vesicles containing cholesterol, ergosterol and lanosterol: a SANS study", ***Biochim. Biophys. Acta - Biomembranes***, **1720**, 84-91 (2005).
120. **M.-P. Nieh**, V. A. Raghunathan, S. R. Kline, T. A. Harroun, C.-Y. Huang, J. Pencer, J. Katsaras "Spontaneously formed unilamellar vesicles with path-dependent size distribution" ***Langmuir,*** **21,** 6656-6661 (2005).
121. T. A. Harroun, M. Koslowsky*,* **M.-P. Nieh**, C-F de Lannoy, V. A. Raghunathan, J. Katsaras "A comprehensive examination of mesophases formed by DMPC and DHPC mixtures" ***Langmuir*****, 21,** 5356-5361 (2005).
122. **M.-P. Nieh**, V. A. Raghunathan, C. J. Glinka, T. A. Harroun, J. Katsaras "Structural phase behavior of high-concentration alignable biomimetic "bicelle" mixtures" ***Macromol. Symp.***, **219**, 135-145 (2005).
123. B. Yue, C.-Y. Huang, **M.-P. Nieh**, C. J. Glinka, J. Katsaras "Spontaneously forming unilamellar phospholipid vesicles" ***Macromol. Symp.*****, 219**, 123-133 (2005).

124. B. Yue, C.-Y. Huang, **M.-P. Nieh**, C. J. Glinka, J. Katsaras "Highly stable phospholipid unilamellar vesicles from spontaneous vesiculation: a DLS and SANS study" ***J. Phys. Chem. B,*** **109**, 609-616 (2005).
125. T. A. Harroun, V. A. Raghunathan, **M.-P. Nieh**, J. Katsaras "Finite-size effects in biomimetic smectic films" ***Phys. Rev. E.*****, 70,** 062902 (2004)
126. **M.-P. Nieh**, S. Kumar, R. Colby, R. H. Fernando, J. Katsaras "Effect of the hydrophilic size on structural phases of aqueous non-ionic Gemini surfactant solutions" ***Langmuir,*** **20**, 9061-9068 (2004).
127. **M.-P. Nieh**, V. A. Raghunathan, C. J. Glinka, T. A. Harroun, G. Pabst, J. Katsaras "The magnetically alignable phase of phospholipid "bicelle" mixtures in a chiral nematic made up of worm-like micelles" ***Langmuir***, **20**, 7893-7897 (2004).
128. T. A. Harroun, M. Koslowsky, **M.-P. Nieh**, V. A. Raghunathan, J. Katsaras "Finite-size effects do not reduce the repeat spacing of phospholipid multibilayer stacks on a rigid substrate" ***Euro. Phys. J. E,*** **13,** 359-362, (2004).
129. **M.-P. Nieh**, T. A. Harroun, V. A. Raghunathan, C. J. Glinka, J. Katsaras "Spontaneously formed monodispersed biomimetic unilamellar vesicles: the effect of charge, dilution and time" ***Biophys. J.*****, 86,** 2615-2629, (2004).
130. T. A. Harroun, **M.-P. Nieh**, M. J. Watson, V. A. Raghunathan, G. Pabst, M. R. Morrow, J. Katsaras "Relationship between the unbinding and main transition temperature of phospholipid bilayers under pressure", ***Phys. Rev. E*****., 69**, 031906 (2004).
131. **M.-P. Nieh**, T. A. Harroun, V. A. Raghunathan, C. J. Glinka, J. Katsaras "Concentration independent spontaneously forming biomimetic vesicles" ***Phys. Rev. Lett.***, **91**, 158105 (2003).
132. **M.-P. Nieh**, V. A. Raghunathan, H. Wang, J. Katsaras "Highly aligned lamellar lipid domains induced by macroscopic confinement" ***Langmuir*****, 19**, 6936-6941, (2003).
133. H. Wang, **M.-P. Nieh**, E. K. Hobbie, C. J. Glinka, J. Katsaras "Kinetic pathway of the bilayered-micelle to perforated lamellae transition" ***Phys. Rev. E****,* **67**, 060902(R), (2003).
134. M. J. Watson, **M.-P. Nieh**, T. A. Harroun, J. Katsaras "Neutron sample cell suitable for the diffraction of aligned biomaterials and capable of exerting up to 370 MPa of hydrostatic pressure" ***Rev. Sci. Instrum.***, **74**, 2778-2781, (2003).
135. **M.-P. Nieh**, C. Glinka, S. Krueger, S. Prosser, J. Katsaras "SANS study on the effect of lanthanide ions and charged lipids on the morphology of phospholipid mixtures:" ***Biophys. J.,*** **82**, 2487-2498, (2002).
136. **M.-P. Nieh**, S. Kumar, D. Ho, R. Briber "Neutron scattering study of chain conformations in the energetically neutral pores of Vycor glass", ***Macromolecules****,* **35**, 6384, (2002).
137. P. Luchette, T. Vetman, S. Prosser, R. Hancock, **M.-P. Nieh**, C. Glinka, S. Krueger, J. Katsaras "Morphology of fast-tumbling bicelles: a small angle neutron scattering and NMR study", ***Biochim. Biophys. Acta.,*** **1513**, 83-94, (2001).
138. **M.-P. Nieh***, C. Glinka, S. Krueger, S. Prosser, J. Katsaras "SANS study of the structural phase of magnetically alignable phospholipid mixtures" ***Langmuir****,* **17**, 2629-2638, (2001).
139. **M.-P. Nieh**, David A. Hoagland, Bruce M. Novak "Chain stiffness of a high molecular weight polyguanidine prepared by living polymerization" ***Macromolecules****,* **31**, 3151, (1998).

IN PRESS:

INVITED TALKS

1. May 7, 2024 **Boehringer-Ingelheim** "*Application of Small Angle Scattering (SAS) on Nanoscale Self-assemblies and Macromolecules*" (Invited Seminar) Ridgefield, CT, USA
2. Apr. 18, 2024 **YIIP Students Seminar (online)** "Biomaterials – Lipids & Their Applications"
3. July 27, 2023 **Biomedical Translation Research Center, Academia Sinica.** "What Can We Learn from Small Angle Scattering" (Seminar) Taipei, Taiwan, ROC
4. July 26, 2023 **Chemical Engineering Department, Min-Chih Univ. of Tech.** "What Can We Learn from Small Angle Scattering" (Dept. Seminar) Taipei, Taiwan, ROC

5. July 21, 2023 **Development Center for Biotechnology.** "Design Discoidal Lipid Nanoparticle (DLNP) as a Nanoscale Theranostic Delivery Carrier" (Seminar) Taipei, Taiwan, ROC
6. Jun 7, 2023 **Chemical Engineering Department, Nat. Taiwan Univ. of Sci. & Tech.** "Internal Structure of Nanoparticles Revealed by Small Angle Scattering" (Dept. Seminar) Taipei, Taiwan, ROC
7. May 12, 2023 **Polymer Science & Engineering Department, Univ. of Massachusetts,** "Unusual Phenomena Observed as Confined in Well-Defined Lipid Bicelle" (Dept. Seminar) Amherst, MA, USA
8. Jan 31, 2023 **2023 Workbenches Center for BioMolecular Structure (CBMS), Brookhaven National Laboratory** "Nanoparticle Structures Revealed by SAXS" (online)
9. Jun 28, 2022 **2022 New England Structural Biology Association** "SAXS View of Lipid Nanoparticles" , Boston, Massachusetts, USA
10. Aug 20, 2021 **2021 Joint Nanoscience and Neutron Scattering Virtual User Meeting, Oak Ridge National Laboratory** "Small Angle Neutron Scattering" at the session of "Nanoscopic Characterization Resources for Biological Materials" (online), Oak Ridge, Tennessee, USA
11. Aug 12, 2021 ***Symposium of Nucleic Acid Drugs/Vaccines and Delivery Systems*, Development Center for Biotechnology,** "*One-Pot Synthesis of A Lipid-Based Nanoscale Delivery Platform for Peptide Nucleic Acids*" (online) Taipei, Taiwan, ROC.
12. Mar 23, 2020 **American Chemical Society (Colloid and Surface Chemistry)** "Efficacious Bicelle/PNA Nanodisc for Antisense" (online)
13. June, 23, 2019 **College of Chemistry and Chemical Engineering, Shaoxing University,** "*Controlling Structures of Lipid Nanoparticles for Potential Biomedical Applications"* Shaoxing, Zhejiang, PRC.
14. June 17, 2019 **Graduate School, China Academy of Engineering Physics** "*Controlling Nanostructures of Lipid Mixtures"* Beijin, PRC.
15. May 31, 2019 **Chemical Engineering Department Seminar, National Chung-Cheng University** "*Well-Defined Lipid Theranostic Self-Assemblies"* Chia-Yi, Taiwan, ROC.
16. May 27, 2019 **Macromolecular Science, Fudan University** "*Small Angle Scattering for Nanostructural Characterization"* Shanghai, PRC.
17. May 24, 2019 **2019 Cross Disciplinary Science Seminar – Multi-dimensional Structure & Dynamics of Protein Molecules** "What can Small Angle Scattering Do*"* National Center for Protein Science - Shanghai, Shanghai, PRC.
18. Apr. 2, 2019 **American Chemical Society (Colloid and Surface Chemistry)** "*Design Efficacious Targeting Lipid Nanoparticles"* Orlando, FL
19. Dec. 2, 2018 **National Taiwan University Molecular Imaging Center** "One-Pot Synthesis of Controllable, Biocompatible $NANO^2$ for Potential Bioimaging Carriers", Taipei, Taiwan, R.O.C
20. Sep. 20, 2018 **Henkel** "General Principle & Applications of Scattering Technology for Nano-structural Characterization of Soft Matter", Rocky Hill, CT
21. Jul. 27, 2018 **National Synchrotron Light Source- II, Brookhaven National Laboratory** "Aggregation Enhanced Emission of A Lipid-Based Nano-in-Nano ($NANO^2$) System", Upton, NY
22. Jul. 3, 2018 **Membranes Beyond**, "Twenty Years of Characterization & Development of Bicelles and Beyond", McMaster University**,** Hamilton, ON, Canada
23. May 23, 2018 **National Taiwan University** "Aggregation Enhanced Emission of Self-Assembled Au Nanoclusters in Lipid Nanodiscs ($NANO^2$)", Taipei, Taiwan ROC.
24. Feb. 9, 2018 **Boehringer-Ingelheim Pharmaceutical Inc.** "Self-Assembled Functional Nanomaterials Research & Capabilities", Ridgefield, CT.

25. Jan. 9, 2018 **Polymer Science Fudan University** "Defects on Biomembrane Enhance Spontaneous Lipid Transfer Rate and Hydrophobic Interactions", Shanghai, P.R.C.
26. Jan. 8, 2018 **Shanghai Tech. University** "Small Angle Scattering for Nanostructural Characterization", Shanghai, P.R.C.
27. Jan. 5, 2018 **South China University of Technology** "Small Angle Scattering for Nanostructural Characterization", Guangzhou, Guangdong, P.R.C.
28. Jan. 5, 2018 **South China University of Technology** "Defects on Biomembrane Enhance Spontaneous Lipid Transfer Rate and Hydrophobic Interactions", Guangzhou, Guangdong, P.R.C.
29. Jan. 4, 2018 **East China University of Science & Technology** "Defects on Biomembrane Enhance Spontaneous Lipid Transfer Rate and Hydrophobic Interactions", Shanghai, P.R.C.
30. Dec. 22, 2017 **National Taiwan University** "The Effects of Biomembrane "Defects" on Lipid Transfer Rate and Hydrophobic-Hydrophilic Interactions", Taipei, Taiwan ROC.
31. Dec. 21, 2017 **Biomedical Technology and Device Research Lab., Industrial Tech. Research Institute** "Rational Design for Efficacious Theranostic Nanocarriers", Hsinchu, Taiwan ROC.
32. Dec. 21, 2017 **Medical & Pharmaceutical Industry Technology and Development** "Rational Design for Efficacious Theranostic Nanocarriers", Taipei, Taiwan ROC.
33. Dec. 19, 2017 **National Central University** "Rational Design for Efficacious Theranostic Nanocarriers", Chungli, Taiwan ROC.
34. Dec. 19, 2017 **National Central University** "How to Prepare Yourself & What to Expect to Study Abroad", Tamsui, Taiwan ROC.
35. Dec. 11, 2017 **Tamkang University** "Apply Small Angle Scattering for Nanostructural Characterization", Tamsui, Taiwan ROC.
36. Dec. 11, 2017 **Tamkang University** "How to Prepare Yourself & What to Expect to Study Abroad", Tamsui, Taiwan ROC.
37. Nov. 30, 2017 **National Chiao-Tung University** "Special Dynamics and Molecular Interactions around the Bilayer Defects", Hsinchu, Taiwan ROC.
38. Nov. 30, 2017 **National Chiao-Tung University** "How to Prepare Yourself & What to Expect to Study Abroad", Hsinchu, Taiwan ROC.
39. Oct. 17, 2017 **The 9th Sino-US Joint Conference of Chemical Engineering** "One-Pot Well-Defined $NANO^2$ (Nano-in-Nano) – A Potential Platform for High-Efficiency Theranostic Carriers", Beijing, P.R.C.
40. Sep. 28, 2017 **Korean Institute of Science & Technology** "*$NANO^2$ (Nano-in-Nano) for Delivering Bioimaging Agents – A Perfect Marriage between Lipid Bicelles and Au-Nanoclusters*", Seoul, Korea
41. Sep. 6, 2017 **National Synchrotron Radiation Research Center User Meeting Workshop II (High Flux Small Angle X-ray on Biological Complex Structures** "*Nanostructural Characterization of Au-nanocluster/Lipid Complexes Using SAXS*", Taiwan NSRRC, Hsin-Chu, Taiwan, ROC
42. Sep. 2, 2017 **Taiwan Neutron Science Society Annual Conference** "*Neutron Scattering – Utilization of Contrast Variation*", National Chiao-Tung University, Hsin-Chu, Taiwan, ROC (**Keynote Speaker**)
43. July 18, 2017 **International Organization of Chinese Physicists and Astronomers 9th Conference** "*Implications of the Mismatch of Lipid Hydrophobic Tails on Lipid Transfer Rate and Hydrophobic Interaction*", Tsinghua University, Beijing, China
44. June 26, 2017 **Polymer Sci. Eng., National Pusan University** "*Lipid-Based Nanodiscs as Potential Platform as Nanocarriers for Cells*", Pusan, South Korea
45. May 24, 2017 **Institute of Basic Science – Center for Soft and Living Matter** "*Structures and Dynamics of "Bicelles" – A Potential Self-Assembled Nanocarrier for in vivo Delivery*", Ulsan, South Korea

46. Feb. 16, 2017 **Boehringer-Ingelheim Pharmaceutical Inc.** "*A Universal Lipid-Based Platform for Encapsulating Hydrophobic Molecules*", Ridgefield, CT
47. Oct. 4, 2016 **Moderna Therapeutics** "*Future Prospects for Application of Scattering on Characterization of LNPs*", Cambridge, MA
48. May 14, 2016 **UCONN Mentor Connection Program (Exploring Expertise)** "Engineering Lipid Mixtures into Well-Defined Nanoparticles", Storrs, CT
49. Jan. 13, 2016 **Moderna Therapeutics** "A Universal Self-Assembled Delivery Nanoplatform – Lipid Nanodiscs (Bicelles)", Cambridge, MA
50. Nov. 30, 2015 **New Jersey Institute of Technology** "Properties and Applications of Well-Defined Self-Assembled Lipid Nanodiscs (Bicelles)", Newark, NJ.
51. Sep. 18, 2015 **Chem. & Biomol. Eng**. **Tulane University.** "Playground of Phospholipid-Based Self-Assemblies", New Olean, LA
52. Aug. 25, 2015 **Pfizer Inc.** "Small Angle X-ray Scattering", Groton, CT.
53. Jul. 25, 2015 **Drug Discovery & Therapy World Congress** "Single-Step Formation and Cellular Response of Vesicles and Disk-like Bicelles", Boston, MA
54. Jun. 12, 2015 **NCS4: Northeast Complex Fluids and Soft Matter Workshop (Stony Brook University)** "Controlling Self-Assembled Lipid-Based Nanoparticles for Theranostic and Nanobiosensing Material", Stony Brook, NY
55. Jun. 1, 2015 **Lanzhou Institute of Chemical Physics (Chinese Academy of Science)** "Properties of Self-Assembled Discoidal Bicelles and Their Potential Applications in Bionanotechnology", Lanzhou, Gansu, China
56. May 29, 2015 **Lanzhou University, School of Nuclear Science & Technology** "Properties of Self-Assembled Discoidal Bicelles and Their Potential Applications in Bionanotechnology", Lanzhou, Gansu, China
57. May 16, 2015 **UCONN Mentor Connection Program (Exploring Expertise)** "Engineering Lipid Mixtures into Well-Defined Nanoparticles", Storrs, CT
58. Mar. 22, 2015 **American Chemical Society (Colloid and Surface Chemistry)** "Cellular uptake mechanisms as controlled by nanostructures of a lipid mixture: Comparison between bicelles and vesicles", Denver, CO
59. Mar. 3, 2015 **Iona College,** Department of Chemistry "Building up Lipid-Legos and Their Applications", New Rochelle, NY
60. Jun. 3, 2014 **American Conference on Neutron Scattering** "Self-Assembled Lipid-Based Nanodiscs, Their Characterizations and Applications", Knoxville, TN
61. May 17, 2014 **UCONN Mentor Connection Program (Exploring Expertise)** "Having Fun and Making Something Useful from the Amphiphilic Molecules that Have Two 'Faces'", Storrs, CT
62. Mar. 17, 2014 **American Chemical Society (Colloid and Surface Chemistry)** "Controlling "stringed" lipid nano-aggregates", Houston, TX
63. Feb. 7, 2014 **University of Connecticut,** Department of Biomedical Engineering "Novel and Simple Approaches to Make Stable Nanodiscs And Nanovesicles for Theranostic Delivery", Storrs, CT
64. Oct. 19, 2013 **National Synchrotron Radiation Research Center,** "When Nanodiscs Meet – in the Eyes of Neutrons", Hsin-Chu, Taiwan
65. Oct. 17, 2013 **National Tsing-Hua University,** Department of Chemical Engineering "Controlling Morphologies of Uniform Self-Assembled Lipid-Based Nanostructures – The Potential Applications", Hsin-Chu, Taiwan
66. Oct. 16, 2013 **National Chung-Hsing University,** Department of Physics "Controlling Morphologies of Uniform Self-Assembled Lipid-Based Nanostructures – The Potential Applications", Taichung, Taiwan
67. Oct. 14, 2013 **National Cheng-Kung University,** Department of Chemical Engineering "Controlling Morphologies of Uniform Self-Assembled Lipid-Based Nanostructures – The Potential Applications", Tainan, Taiwan
68. Oct. 13, 2013 **2013 Joint Conference of Taiwan Neutron Science Society Annual Meeting and NSSRC Neutron User Meeting & Workshop,** "Structures of Bilayered

Lipocomplexes as Revealed by Neutron Scattering", Hengchun, Taiwan – **as a keynote speaker**

69. Apr. 4, 2013 **University of Massachusetts at Lowell,** Department of Chemistry "Self-Assembled Lipid-Based Nanodiscs and Nanovesicles – Fundamental Understanding, Applications and Manufacturing", Lowell, MA, USA
70. Feb. 7, 2013 **Oak Ridge National Laboratory**, Center for Nanophase and Materials Sciences "Controlling Nanodisc-to-Nanovesicle Formation and Implication of Its Applications", Oak Ridge, TN, USA
71. Nov. 29, 2012 **Emory University,** Department of Chemistry "Self-Assembled Structures, Kinetics & Applications of a Phsopholipid Mixture - Bicelle", Atlanta, GA, USA
72. Nov. 11, 2012 **Shaoxing University,** College of Chemistry and Chemical Engineering "Neutron Scattering – an Advanced Tool for Nano-Scaled Structural Characterization" and "Fundamental Understanding of Self-Assembly of Lipid-Based Nanoparticles", Shaoxing, Zhejiang, China
73. Nov. 8, 2012 **BIT, Symposium of Drug Delivery Systems**, "Bridging Fundamental Science to Practical Applications of Self-Assembled Targeting Lipid-Based Delivery Nanoparticles", Nanjing, Jiangsu, China
74. Feb. 29, 2012 **American Physical Society** "The Morphology of Lipid Aggregates based on the Interplay among Molecular Architectures, Hydrophobic-Hydrophilic and Coulombic Interactions and their Kinetics", Boston, MA, USA
75. Nov. 29, 2011 **University of Tennessee**, Physics Department "from Fundamental Understanding of Lipid Mixtures to Their Applications" Knoxville, Tennessee, USA.
76. Nov. 28, 2011 **Oak Ridge National Laboratory**, Join Institute for Neutron Sciences "Kinetics of the Growth of Lipid-Based Nanodiscs" Oak Ridge, Tennessee, USA.
77. Feb. 28, 2011 **Pfizer Inc.**, Pharmaceutical Development group "Self-Assembled Nano-Liposomes for Targeting Delivery" Groton, Connecticut, USA.
78. Feb. 7, 2011 **Rensselaer Polytechnic Institute**, Center for Biotechnology & Interdisciplinary Studies "Bicelle-to-Vesicle Transition – Probed by Small Angle Neutron Scattering" Troy, New York, USA.
79. Jul. 16, 2010 **University of Western Ontario**, Department of Physics, "Small Angle Neutron Scattering – Its Application on Soft Material Research And Recent Development at CNBC" London, Ontario, Canada.
80. Jun. 9, 2010 **National Research Council**, Canadian Neutron Beam Centre, "Self-Assembled Unilamellar Vesicles: Formation Mechanism, Characterization and Applications" Chalk River, Ontario, Canada.
81. Apr. 22 , 2010 **University of Rhode Island**, Department of Chemical Engineering, "Self-Assembled Nano-Liposomes as Diagnostic/Therapeutic Carriers" Kingston, Rhode Island, USA.
82. Mar. 12 , 2010 **Oak Ridge National Laboratory**, Neutron Scattering Science Division, "Small Angle Neutron Scattering – A Powerful Tool for Fundamental Material Research" Oak Ridge, Tennessee, USA.
83. Feb. 26 , 2010 **University of Connecticut**, Institute of Materials Science, "From Basic Research to Technology: Applications of Soft Materials" Storrs, Connecticut, USA.
84. Dec. 7 , 2009 **Oak Ridge National Laboratory**, Neutron Scattering Science Division, "Self-Assembled Liposomes – from Basic Understanding to Applications" Oak Ridge, Tennessee, USA.
85. Nov. 21, 2008 **National Taiwan University**, Institute of Biomedical Engineering, Taipei, Taiwan
86. Nov. 17, 2008 **National Chung-Hsing University**, Department of Chemistry, Taichung,
87. Nov. 14, 2008 **National Taiwan University**, Department of Chemical Engineering, Taipei, Taiwan
88. Nov. 13, 2008 **Institute of Nuclear Energy Research**, Taoyuan, Taiwan
89. Nov. 11, 2008 **Industrial & Technology Research Institute**, Hsinchu, Taiwan
90. Nov. 7, 2008 **Tung-Hai University**, Department of Physics, Taichung, Taiwan

91. Nov. 6, 2008 **Chung-Yuan Christian University**, Department of Chemical Engineering, Chungli, Taiwan
92. Aug. 14, 2008 **Wyeth Pharmaceuticals Inc.**, Pearl River, New York, USA
93. Nov. 30, 2007 **University of Western Ontario**, Centre for Chemical Physics, London, Ontario, Canada
94. Mar. 29, 2007 **McMaster University**, Department of Chemical Engineering, Hamilton, Ontario, Canada
95. Jun. 21, 2006 **American Conference on Neutron Scattering**, St. Charles, Illinois, USA
96. Nov. 18, 2004 **National Tsing Hua University**, Department of Chemical Engineering, Hsinchu, Taiwan, ROC
97. Sep. 28, 2004 **University of Western Ontario**, Department of Chemical Engineering, London, Ontario, Canada
98. May 25, 2004 **University of Ottawa**, Department of Chemical Engineering, Ottawa, Ontario, Canada
99. May 7, 2004 **Ryerson University**, Department of Chemical Engineering, Toronto, Ontario, Canada
100. Oct. 20, 2003 **NIST Center for Neutron Scattering**, Gaithersburg, MD, USA
101. Sept. 9, 2002 **NRC,** SIMS, Ottawa, Ontario, Canada

CONFERENCE CONTRIBUTIONS

1. Graham Roberts, **M.-P. Nieh,** Qian Yang "Automated Small Angle Scattering Interpretation via Machine Learning Morphology Classification and Structural Parameter Regression" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2024 Spring American Chemical Society, New Orlean, LA (Mar. 19, 2024)
2. C. Cheu, **M.-P. Nieh** "Modeling Lipid Nanodiscs to Encapsulate Multiple Materials in Circumferential Divided Rim Sections" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2024 Spring American Chemical Society, New Orlean, LA (Mar. 17, 2024)
3. C.-H. Liu, **M.-P. Nieh** "The Influence of Short-Chain Lipid (Detergent-like Molecules) on the Morphology of Bicelles" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2023 Spring American Chemical Society, Indianapolis, IN (Mar. 29, 2023)
4. C.-H. Liu, **M.-P. Nieh** "Shape and Size Controllable Polymer Nanostructures via Facile Polymerization in a Bicellar Template" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2023 Spring American Chemical Society, Indianapolis, IN (Mar. 27, 2023)
5. C.-H. Liu, **M.-P. Nieh** "Facile Template-Polymerization of Controllable Nano-Ring" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2022 Spring American Chemical Society, Chicago, IL (Aug. 23, 2022)
6. C.-H. Liu, **M.-P. Nieh** "Controlled Controllable Nanostructures via a Lipid Self-Assembled Bicellar Template – Characterized by Contrast-Variation SANS", 2022 American Conference on Neutron Scattering, Boulder, CO (June 7, 2022)
7. C. Cheu, L. Yang, **M.-P. Nieh** "Developing Small Angle Scattering Models for Detailed Structures of Bicelles" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2021 Spring American Chemical Society (online)
8. I. Alahmadi, **M.-P. Nieh** "High Sensitivity DSC of Bicellar Mixtures Regarding Structural Transformations" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. ACS Division of Colloid & Surface Chemistry, 2021 Spring American Chemical Society (online)
9. K.-C. Shih, **M.-P. Nieh** "Unusual Complete Unbinding of Single-tail Tethered Lipids" Biomembrane Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2020 Spring American Chemical Society (online)
10. J. Fang, J. LoTurco, **M.-P. Nieh** "Mn doped ZnSe/ZnS quantum dot (QD) species show increased fluorescence emission when encapsulated in a lipid bilayer bicelles" Biomembrane

Synthesis, Structure, Mechanics, and Dynamics. Division of Colloid & Surface Chemistry, 2021 Spring American Chemical Society (online)

11. A. T. Rad, P.-S. Lai, **M.-P. Nieh** "Bicellar Nanocarrier for Cancer Phodynamic Therapy", Society for Biomaterials, Seattle, WA (April 3, 2019)
12. A. T. Rad**, M.-P. Nieh** "Multitumor on a chip device for chemotherapy results prediction", CMBE 2019, San Diego, CA. (Jan. 2, 2019)
13. A. T. Rad**, M.-P. Nieh** "Tumor on a chip platform for cancer therapy prediction", MEDcity Converge, Philadelphia, PA. (Jan. 19, 2018)
14. C. Mandelkern, Y. Liu, I. Alahmadi, K.-C. Shih, J. Fang**, M.-P. Nieh** "*Designing Size-Controllable Bicelles*" 2018 American Chemical Society, New Orleans, LA (Mar. 19, 2018)
15. A. T. Rad**, M.-P. Nieh "***Self-Assembled Bicelle Platform: A Universal Theranostic Nanocarrier for Cancer***",** BMES 2017 annual conference, Phoenix, AZ. (Oct. 13, 2017)
16. **M.-P. Nieh**, Y. Xia, F. Heberle, J. Katsaras "*The Effects of Defects on Lipid Biomembranes*" 2017 American Chemical Society, San Francisco, CA (Apr. 3, 2017)
17. Y. Xia, C. Bowerman, J. Chan, C. Clemente, A. Esposito, E. Miracco, B. Kangarlou, **M.-P. Nieh** "Determining the mRNA Nanoparticle structure using SANS and SAXS" 2017 American Chemical Society, San Francisco, CA (Apr. 2, 2017)
18. C. Bowerman, Y. Xia, J. Chan, C. Clemente, A. Esposito, E. Miracco, B. Kangarlou, **M.-P. Nieh** "Opening the SANS toolbox for studying mRNA nanoparticle structure" 2017 American Chemical Society, San Francisco, CA (Apr. 2, 2017)
19. Y. Xia, H.-S. Jang, Z. Shen, C. Yu, N. Tennakoon, Y. Li, M.-P. Nieh "Polymer-induced Liposome Aggregation: Toward the Application of Naked-eye Bio-detection" American Institute of Chemical Engineers, San Francisco, CA (Nov. 16, 2016)
20. **M.-P. Nieh**, A. T. Rad, E. Dormidontova, F. Maran, T. J. Lakis Mountziaris, "Aggregation-Induced Emission of Hydrophobically-Modified Metal Clusters in Lipid Nanodiscs" American Institute of Chemical Engineers, San Francisco, CA (Nov. 17, 2016)
21. Y. Xia, H.-S. Jang, C. Yu, N. Tennakoon, **M.-P. Nieh** "Interaction between Triblock Copolymer Poly (propylene glycol) – Poly (ethylene glycol) – Poly (propylene glycol) and Model Lipid Membranes" 2016 American Chemical Society, San Diego, CA (Mar. 14, 2016)
22. Y. Xia, K. Charubin, F. Herbele, D. Marquardt, J. Katsaras, J. Tian, X. Cheng, **M.-P. Nieh** "Spontaneous Lipid Transfer and its Implication of Membrane Lateral Organization and Structural Stability" 2016 American Chemical Society, San Diego, CA (Mar. 13, 2016)
23. Y. Bao, A. T. Rad, Z. Wang, E. Dormidontova, J. Arora, V. John, F. Maran, **M.-P. Nieh** "Self-Assembled Nanoparticle-in-Nanoparticle Metal/Lipid Complex" 2015 American Institute of Chemical Engineers, Salt Lake City, UT (Nov. 12, 2015)
24. Y. Xia, Hyun-Sook Jang, Ying Liu, Chenlu Yu, **M.-P. Nieh** "Polymer-induced lipid cluster formation: Effects of charge density, curvature, lipid composition and polymer concentration" 2015 American Chemical Society, Boston, MA (Aug. 18, 2015)
25. Y. Xia, K. Charubin, F. Herbele, D. Marquardt, Y. Liu, J. Katsaras, B. Hammouda, **M.-P. Nieh** "New Insights to the Distinct Increase of Spontaneous Lipid Transfer Rate in Bicelles" 2015 American Chemical Society, Boston, MA (Aug. 16, 2015)
26. **M.-P. Nieh**, Y. Lei, A. Amalaradjou "Lipid Nanoclusters – a Potential Instrument-Free, Low-Cost, High-Sensitivity Biosensing Platform" 2015 Gordon Research Conference, Waltham, MA (Jun. 7-12, 2015)
27. W. Aresh, Y. Liu, J. Sine, D. Thayer, A. Puri, Y. Huang, Y. Wang, **M.-P. Nieh** "Cellular uptake mechanisms as controlled by nanostructures of a lipid mixture: Comparison between bicelles and vesicles" 2015 American Chemical Society, Denver, Co (Mar. 22, 2015)
28. **M.-P. Nieh**, T.-H. Fan, Y. Wang "Scalable Manufacture of Multi-Functional Lipid-Based Nanoparticles" 2014 NSF Nano Science & Engineering Grantee Conference, Wahsington D. C. (Dec. 9-10, 2014).
29. W. Aresh, Y. Liu, J. Sine, D. Thayer, A. Puri, Y. Huang, Y. Wang and **M.-P. Nieh** "Enhancement of Cancer Cellular Uptake By the Morphology of Lipid-Based Nanodiscs" 2014 American Institute of Chemical Engineering, Altanta, GA (Nov. 20, 2014)

30. K. Charubin, Y. Xia and **M.-P. Nieh** and Y. Lei "The Study of Short-Chain Phosphatidylcholine Effect on the Spontaneous Lipid Transfer in Phospholipid-Based Vesicles Using Differential Scanning Calorimetry" 2014 American Institute of Chemical Engineering, Altanta, GA (Nov. 20, 2014)
31. X. Sun, C. Brückner, **M.-P. Nieh** and Y. Lei "Properties of Fluorescent Polymer Film with Three-Dimensionally Ordered Nanopores and Its Application in Explosive Detection" 2014 American Institute of Chemical Engineering, Altanta, GA (Nov. 18, 2014)
32. Y. Xia, K. Charubin, Y. Liu, M. Li, F. A. Herberle, D. Marquardt, J. Katsaras and **M.-P. Nieh** " Analysis of Lipid Transfer Rates of Phospholipid Nanodiscs (Bicelles) Using Time-Resolved Differential Scanning Calorimetry and Small Angle Neutron Scattering" 2014 American Institute of Chemical Engineering, Altanta, GA (Nov. 18, 2014)
33. W. Aresh, Y. Liu, D. Thayer, A. Puri, J. Sine, **M.-P. Nieh** "Cellular Uptake of Morphological Dependence Lipid-Based Nano-Carriers" 2014 NANOSMAT, Houston, TX (May 2014).
34. H.-S. Jang, F. Maran, **M.-P. Nieh** "Self-assembly of Unilamellar vesicles (ULV) with lipids and hydrophobated Gold Nanoparticles" 2014 American Chemical Society, Houston, TX (Mar. 20, 2014).
35. Y. Xia, K. Charubin, F. Heberle, J. Katsaras, **M.-P. Nieh** "Time-Resolved Differential Scanning Calorimetry and Small Angle Neutron Scattering Studies on the Lipid Exchange of Phospholipid Nanodiscs" 2014 American Chemical Society, Houston, TX (Mar. 16, 2014).
36. Y. Liu, P. Molinaro, **M.-P. Nieh** "Study of Nile red exchange between nanodiscs: A kinetics study of hydrophobic molecular transportation" 2014 American Chemical Society, Houston, TX (Mar. 16, 2014).
37. A. Hu, T.-H. Fang, J. Katsaras, Y. Xia, M. Li, **M.-P. Nieh** "Coalescence Kinetics of Lipid Based Bicelles" 2014 American Physical Society, Atlanta, GA (Mar. 7, 2014)
38. **M.-P. Nieh**, T.-H. Fan, Y. Wang "Single-Step Manufacture of Affinity Nanodiscs for Drug Delivery" 2013 NSF Nanoscale Science and Engineering Grantees Conference, Washington D. C. (Dec. 6, 2013)
39. H.-S. Jang, R. Cersonsky, **M.-P. Nieh** "Fluorescence Quenching Kinetics of Pyrene Excimer in Polystyrene Films" 2013 Material Research Society, Boston, MA (Dec. 4, 2013).
40. Y. Xia, **M.-P. Nieh** "Reaction-Limited Fusion Mechanism of Zwitterionic Nanodiscs" 2013 American Institute of Chemical Engineering, San Francisco (Nov. 8, 2013).
41. X. Sun, S. Mopidevi, Y. Liu, C. Silhavy, **M.-P. Nieh**, Y. Lei "'smart' Sand for Buried Explosive Detection By Naked Eye Under Handheld UV Light" 2013 American Institute of Chemical Engineering, San Francisco (Nov. 8, 2013).
42. Y. Liu, Noel Cielo, **M.-P. Nieh** "Effect of PEGylated Lipids on Lipid-Based Nanodisc-to-Nanovesicle Mechanism" 2013 American Chemical Society, New Orlean, LA (Apr. 10, 2013).
43. Y. Liu, H.-S. Jang, **M.-P. Nieh** "The Study of Lipid-based Nanodiscs as a Novel Carrier for Hydrophobic Cargo" 2013 American Physical Society, Baltimore, MD (Mar. 19, 2013).
44. H.-S. Jang, **M.-P. Nieh** "Effects of Manufacturing Processes and Ionic Environment on the Formation of Pyrene Excimers" 2013 American Physical Society, Baltimore, MD (Mar. 19, 2013).
45. **M.-P. Nieh**, Y. Xia, M. Li, N. Kučerka "Shear-Induced Alignment of 'Bicellar' Phospholipid Membranes" 2013 American Physical Society, Baltimore, MD (Mar. 18, 2013).
46. H.-S. Jang, Y. Wang, Y. Lei, **M.-P. Nieh** "Fluorescence Response of Pyrene/Polystyrene/Organic Salt Thin Films: Materials and Processing for Explosives Detection" 2012 Materials Research Society, Boston, MA (Nov. 25-30, 2012).
47. H.-S. Jang, Y. Wang, Y. Lei, **M.-P. Nieh** "The Controlling Parameters of Pyrene/Polymer Thin Films as Fluorescence Explosive Detecting Materials" 2012 American Institute of Chemical Engineering, Pittsburgh, PA (Nov. 2, 2012).
48. M. Li, **M.-P. Nieh** "Swellable Model POPC/POPG/DHPC Membrane with a Lamellar Long-Range Order" 2012 American Physical Society, Boston, MA (Feb. 27, 2012).
49. A. Hu, A. Dizon, M. Li, T.-H. Fan, **M.-P. Nieh** "Growth Mechanism of Lipid-Based Nanodiscs -- a Model Membrane for Studying Kinetics of Particle Coalescence" 2012 American Physical Society, Boston, MA (Feb. 27, 2012).
50. M. Li, H. Morales, J. Katsaras, P. M. MacDonald, **M.-P. Nieh** "The Effect of Short-Chain Lipid on the Morphology of Bicellar Mixtures" 2012 American Physical Society, Boston, MA (Feb. 27, 2012).

51. Y. Liu, Y. Yang, **M.-P. Nieh** "Morphological study on a phospholipid mixture and their Dependence of Temperature, Concentration and Chemical Composition" 2012 American Physical Society, Boston, MA (Feb. 27, 2012).
52. Y. Liu, Y. Yang, **M.-P. Nieh** "Formation of Lipid-Based Nanodiscs and Their Dependence of Temperature and Chemical Composition" 2012 American Physical Society, Boston, MA (Feb. 28, 2012).
53. H.-S. Jang, Y. Wang, Y. Lei, **M.-P. Nieh** "What determines photoluminescence and quenching when fluorophores in a polymer matrix?" 2012 American Physical Society, Boston, MA (Mar. 1, 2012).
54. **M.-P. Nieh**, A. Hu, A. Dizon, M. Li, T.-H. Fan "How Lipid-Based Nanodiscs Interact with Each Other" 2012 Gordon Research Conference (Colloidal, Macromolecular & Polyelectrolyte Solutions), Ventura, CA (Feb. 5 – 10, 2012).
55. **M.-P. Nieh**, U. Iqbal, H. Albaghdadi, U. I. Tuor, Z. Mester, D. Stanimirovic,J. Katsaras, A. Abulrob "Targeted MRI and Optical Molecular Imaging Using Gadolinium Loaded Small Unilamellar Vesicles" 2011 American Institute of Chemical Engineering, Minneapolis, MN (Oct. 19, 2011).
56. **M.-P. Nieh**, P. Dolinar, N. Kučerka, S. R. Kline, K. C. Littrell, J. Katsaras "Kinetically Trapped Uniform Nano-Size Unilamellar Vesicles Made of Thermodynamically Stable Multilamellar Vesicular Phospholipid Solutions" 2011 American Institute of Chemical Engineering, Minneapolis, MN (Oct. 18, 2011).
57. **M.-P. Nieh**, S. Mahabir, J. Katsaras, W. K. Wan "Time-Resolved Study on Nanodisc-to-Vesicle Transformation" 2011 American Physical Society, Dallas, TX (Mar. 22, 2011).
58. **M.-P. Nieh**, N. Kučerka, J. Katsaras "Can Multilamellar Vesicles Be Transformed into Unilamellar Vesicles?", 2010 American Conference on Neutron Scattering, Ottawa, Ontario, Canada (Jun. 29, 2010).
59. N. Kučerka, **M.-P. Nieh**, J. Katsaras "Lipid Areas Obtained from the Simultaneous Analysis of Neutron and X-ray Scattering", 2010 American Conference on Neutron Scattering, Ottawa, Ontario, Canada (Jun. 29, 2010).
60. N. Kučerka, D. Marquardt, T. A. Harroun, **M.-P. Nieh**, D. de Jong, L. Schafer, S.-J. Marrink, J. Katsaras "Cholesterol in PUFA Bilayers Studied by Small-Angle Neutron Diffraction", 2010 American Conference on Neutron Scattering, Ottawa, Ontario, Canada (Jun. 27, 2010).
61. N. Kučerka, D. Marquardt, T. A. Harroun, **M.-P. Nieh**, S. R. Wassall, D. de Jong, L. Schafer, S.-J. Marrink, J. Katsaras "Cholesterol's Location in Bilayers is Determined by Lipid Composition", 2010 American Conference on Neutron Scattering, Ottawa, Ontario, Canada (Jun. 27, 2010).
62. S. Mahabir, W. K. Wan, N. Kučerka, J. Katsaras, K. Littrell, L. Debeer-Schmitt, **M.-P. Nieh** "Mechanism for the Growth of 'Bicelles' ", 2010 American Conference on Neutron Scattering, Ottawa, Ontario, Canada (Jun. 27, 2010) ***– the Best Poster Award***.
63. **M.-P. Nieh**, S. Mahabir, W. Wan, J. Katsaras "Direct Evidence of Formation Mechanism of Self-Assembled Monodisperse Unilamellar Vesicles for Potential Delivery Carriers", 93th Canadian Chemistry Conference and Exhibition, Toronto, Ontario, Canada (May 30, 2010).
64. S. Mahabir, W. Wan, J. Katsaras, **M.-P. Nieh** "Investigation of Charge And Heating Rate on Spontaneously Assembled Unilamellar Vesicles Using Small-Angle Neutron Scattering", American Association of Pharmaceutical Sciences National Biotechnology Conference, San Francisco, CA, USA (May 16-19, 2010).
65. **M.-P. Nieh** "What Can Neutron And X-Ray Scattering Do for Silk Characterization?", AFMNet transgenic Spider Silk Workshop, Montreal, Quebec, Canada (Dec 9, 2009).
66. S. Mahabir, W. Wan, J. Katsaras, **M.-P. Nieh** "Using SANS to Study Unilamellar Vesicles", Canadian Institute of Neutron Scattering, Toronto, Canada (Oct 30, 2009).
67. **M.-P. Nieh**, J. Katsaras, E. Nicholson, R. Soong, P. MacDonald "Detailed Structure of A Magnetically Alignable Mixture – "Bicelles"", Canadian Association of Physicists, Moncton, New Brunswick, Canada (June 9, 2009).
68. **M.-P. Nieh**, Z. Yamani, N. Kučerka, J. Katsaras "New Development of Small Angle Neutron Scattering (SANS) Capability & Application at Canadian Neutron Beam Centre", Canadian Association of Physicists, Moncton, New Brunswick, Canada (June 8, 2009).

69. **M.-P. Nieh**, J. Katsaras, E. Nicholson, R. Soong, P. MacDonald "Detailed Structure of A Magnetically Alignable Mixture – "Bicelles"", 92th Canadian Chemistry Conference and Exhibition, Hamilton, Ontario, Canada (June 3, 2009).
70. **M.-P. Nieh**, G. Yuan, C. N. Mulligan "Small Angle Neutron Scattering (SANS) Study on the Morphological Transformation of Rhamnolipid Aggregates Induced by Styrene", 92th Canadian Chemistry Conference and Exhibition, Hamilton, Ontario, Canada (June 1, 2009).
71. S. Mahabir, **M.-P. Nieh**, J. Katsaras, W. K. Wan "SANS Characterization of Self-Assembled Unilamellar Vesicles for Controlled Release". Canadian Biomaterials Society, Quebec City, Quebec, Canada (May 21 2009).
72. **M.-P. Nieh**, Z. Yamani, N. Kučerka, J. Katsaras "Adapting a Triple-Axis Spectrometer for Small Angle Neutron Scattering Measurements", International Conference on Neutron Scattering, Knoxville, Tennessee, Canada (May 5, 2009).
73. S. D. Hudson, J. L. Hutter, L. E. Millon, W. Wan, **M.-P. Nieh** "Anisotropic Poly(Vinyl Alcohol) Hydrogel: Connection Between Structure and Bulk Mechanical Properties" American Physics Society, Pittsburgh, PA, USA (March 19, 2009)
74. **M.-P. Nieh**, M. D. Guiver, D. S. Kim, J. Ding, T. Norsten "Small Angle Neutron Scattering Study on Comb-Shaped Fluorocrabon Copolymer as a Proton Exchange Membrane (PEM)", 58th Canadian Chemical Engineering Conference, Ottawa, Ontario, Canada (October, 2008).
75. **M.-P. Nieh**, Z. Yamani, N. Kučerka, J. Katsaras "Structural Characterization of Soft Materials with Small Angle Neutron Scattering - General Introduction and New Development at Chalk River Laboratories", 58th Canadian Chemical Engineering Conference, Ottawa, Ontario, Canada (October, 2008).
76. **M.-P. Nieh**, J. Katsaras, U. Iqbal, A. Abulrob, D. Stanimirovic, U. Tuor "A Recent Development of Spontaneously Forming Liposomes for Potential Diagnostic and Therapeutic Carriers", 58th Canadian Chemical Engineering Conference, Ottawa, Ontario, Canada (October, 2008).
77. S. D. Hudson, J. L. Hutter, **M.-P. Nieh**, J. Pencer, L. E. Millon, W. Wan "SANS and USANS of Anisotropic PVA Hydrogel", Canadian Association of Physicists, Quebec City, Quebec, Canada (June, 2008).
78. **M.-P. Nieh**, M. D. Guiver, D. S. Kim, T. Norsten "Morphology of Comb-Shaped Proton Exchange Membrane (PEM) Copolymers Using Small Angle Neutron Scattering", Canadian Association of Physicists, Quebec City, Quebec, Canada (June, 2008).
79. N. Kučerka, J. Pencer, V. Anghel, **M.-P. Nieh**, J. Katsaras "Detection of Lipid Rafts by Neutron Scattering", Canadian Association of Physicists, Quebec City, Quebec, Canada (June, 2008).
80. J. Katsaras, N. Kučerka, **M.-P. Nieh**, T. Harroun, S. Schooling, E. Papp-Szabo, J. Pencer, E. Nicholson, T. Beveridge "Effect of Cations on the Structure of Lipopolysaccharide Bilayers Isolated from P. aeruginosa PAO1", Quebec City, Quebec, Canada (June, 2008).
81. **M.-P. Nieh**, M. D. Guiver, D. S. Kim, T. Norsten "Small Angle Neutron Scattering Study of Comb-Shaped Copolymers as Proton Exchange Membrane (PEMs)", American Conference on Neutron Scattering, Santa Fe, New Mexico, USA (May, 2008).
82. **M.-P. Nieh**, Z. Yamani, J. Katsaras, N. Kučerka "Small Angle Neutron Scattering Development at Canadian Neutron Beam Centre (CNBC) – Chalk River Laboratories" American Conference on Neutron Scattering, Santa Fe, New Mexico, USA (May, 2008).
83. **M.-P. Nieh**, W. Feng, S. Zhu, J Kastaras, T. Harroun, J. Brash "Characterization of biocompatible polymer thin films, grafted poly-(methacrylate) with oligo(ethylene glycol) and phosphorylcholine side chains, by neutron reflectometry", Canadian Association of Physicists, Saskatoon, Saskatchewan, Canada (June, 2007).
84. **M.-P. Nieh**, J. Pencer, J Kastaras, X. Qi "Controlled-release and controlled-size spontaneous unilamellar vesicles with low polydispersities", Canadian Association of Physicists, Saskatoon, Saskatchewan, Canada (June, 2007).
85. **M.-P. Nieh**, N. Kučerka, J. Pencer, J. Katsaras "The morphologies of magnetically alignable bicelle mixtures", 90th Canadian Chemistry Conference and Exhibition, Winnipeg, Manitoba, Canada (May, 2007).

86. **M.-P. Nieh** "Important parameters controlling size, polydispersity and shape of self-assembled unilamellar vesicles", (***invited***) American Conference on Neutron Scattering, St. Charles, IL, USA (June, 2006).
87. **M.-P. Nieh**, J Kastaras, J. Pencer, X. Qi "Properties of spontaneously formed unilamellar vesicles and their interactions with Saposin C", Canadian Association of Physicists, St. Catharines, Ontaion, Canada (June, 2006).
88. **M.-P. Nieh** "Neutron scattering for characterizing the structure of soft materials", Canadian Chemistry Conference and Exhibition, Halifax, Nova Scotia, Canada (May, 2006).
89. C. Y. Huang, **M.-P. Nieh**, V. A. Raghunathan, J. Katsaras "Fluctuations of model biomimetic membranes with perforation defects", American Chemical Soc., San Diego, CA, USA (March, 2005).
90. **M.-P. Nieh**, C. Y. Huang, V. A. Raghunathan, J. Katsaras "Perforation defects on model biomimetic membrane: A neutron scattering study", American Chemical Soc., San Diego, CA, USA (March, 2005).
91. **M.-P. Nieh**, V. A. Raghunathan, T. A. Harroun, J. Katsaras "Spontaneous Formation of Monodisperse Small Uni-lamellar Vesicles – Kinetically Trapped or Thermodynamically Stable ?", Canadian Association of Physicists, Winnipeg, Manitoba, Canada (June, 2004).
92. V. A. Raghunathan, **M.-P. Nieh**, T. A. Harroun, J. Katsaras "*Phase Behaviour of Aqueous Solutions of Short and Long Chain Phospholipids*", Canadian Association of Physicists, Winnipeg, Manitoba, Canada (June, 2004).
93. **M.-P. Nieh**, V. A. Raghunathan, C. J. Glinka, T. A. Harroun, J. Katsaras "Structure Phase Behavior of a Highly Alignable Model Membrane - Bicelles", American Chemical Society, Anaheim, CA, USA (March, 2004).
94. B. Yue, C. Huang, **M.-P. Nieh**, C. J. Glinka, J. Katsaras "Spontaneously Forming Unilamellar Phospholipid Vesicles", American Chemical Society, Anaheim, CA, USA (March, 2004).
95. **M.-P. Nieh**, V. A. Raghunathan, C. J. Glinka, T. A. Harroun, J. Katsaras "Structure Phase Behavior of Model Biomimetic Membrane - Bicelles", American Physical Society, Montreal, QB, Canada (March, 2004).
96. T. A. Harroun, **M.-P. Nieh**, M. Watson, V. A. Raghunathan, G. Pabst, M. R. Morrow, J. Katsaras "Transition Temperatures of Phospholipid Bilayers under Pressure", American Physical Society, Montreal, QB, Canada (March, 2004).
97. **M.-P. Nieh**, T. A. Harroun, J. Katsaras "Alignable Phospholipid Mixture in Solutions through A Weak Shear**"** Biophysical Society, Baltimore, MD, USA (February, 2004).
98. T. A. Harroun, **M.-P. Nieh**, J. Katsaras, K. Balali-Mood, J. P. Bradshaw "A Study of Basic Membrane Anchoring Switching Domains" Biophysical Society, Baltimore, MD, USA (February, 2004).
99. **M.-P. Nieh**, T. A. Harroun, J. Katsaras "Spontaneous Unilamellar Liposomes of Low Polydispersity and High Stability", Liposomes Conference, Hamilton, ON, Canada (July, 2003).
100. **M.-P. Nieh**, T. A. Harroun, J. Katsaras "Spontaneous Formation of Monodisperse Unilamellar Vesicles Suitable as Carriers for Drugs and Biomolecules", Can. Assoc. Phys., Charlottetown, PEI, Canada (June, 2003).
101. **M.-P. Nieh**, C. J. Glinka, J. Katsaras "Spontaneously Formed Monodispersed Unilamellar Vesicles for Controlled drug delivery", Biophys. Soc., St. Antonio, TX, USA (March, 2003).
102. **M.-P. Nieh**, V. A. Raghunathan, H. Wang, C. J. Glinka, J. Katsaras "A metastable aligned lamellar phase, populated with defects lying on a two-dimensional lattice and induced by macroscopic confinement", Biophys. Soc., St. Antonio, TX, USA (March, 2003).
103. **M.-P. Nieh**, S. Kumar, D. Ho, R. M. Briber "Small Angle Neutron Scattering of Polymer Solutions under Strong Confinement in Controlled Pore Glass", DHPP of American Physics Society, Kansas City, KS, USA (March, 2000).
104. **M.-P. Nieh**, D. A. Hoagland, "Flow-Induced Chain Deformation in An Opposed-jet Flow", DHPP of American Physics Society, Pittsburgh, PA, USA (March, 1997).

PROJECT REPORTS

- Y. Xia, M. Li, N. Kučerka, S. Li, **M.-P. Nieh "**Neutron Diffraction on Bicellar Mixtures Aligned by an In-Situ Temperature Controllable Shear Flow Device" Annual Report to CNBC (2014). (http://www.cins.ca/docs/exp_rep/CNBC-2014-SM-6.pdf)
- **M.-P. Nieh**, S. Kumar, R. Colby **"**Structural And Kinetic Study of Aqueous Solutions of Surfynol 400 Series – Experimental Results of Small Angle Neutron Scattering (SANS) and Dynamic Light Scattering (DLS)" Reports to Air Products and Chemicals Corp. (2001).
- **M.-P. Nieh**, S. Kumar, R. Colby **"**DLS Results and Rheological Behavior of Aqueous Solutions of Surfynol 400 Series" Reports to Air Products and Chemicals Corp. (2001).
- **M.-P. Nieh**, S. Kumar, R. Colby **"**Shear Induced Structure Breakdown and Time Dependence of the Surfynol 400 Series Aqueous Solutions" Reports to Air Products and Chemicals Corp. (2002).
- **M.-P. Nieh**, S. Kumar, R. Colby **"**Review on Aqueous Solution of Surfynol 400 Series" Reports to Air Products and Chemicals Corp. (2002).

DETAILED FUNDING LIST

2023 – now	UCONN Research Excellence Program "Endogenous lipids for local anesthetic delivery for prolonged pain management" $50,000 as a co-PI (PI: L. S. Nair)
2021 – now	UCONN Research Excellence Program "Endogenous lipids for local anesthetic delivery for prolonged pain management" $50,000 as a co-PI (PI: L. S. Nair)
2019 – now	NSF (CBET-Biomedical Engineering), "Phase Field Modeling of Thermal Transport for Predicting and Preventing Porosity and Solidification Cracking in Additive Manufacturing" (#1930906) - $315,770.00 as a PI
2020 – 2021	BioScience Pipeline "A Universal Nanocarrier Platform for Cancer Detection and Treatment: One-Pot Self-Assembled, Scalable, Low-Cost Red Blood Cell Mimicked Carrier" $30,000 as a PI.
2019 – 2020	Lawrence Livermore National Laboratory "Integrated Multiscale Modeling and Experimental Approach to Understand Viscoelasticity of Elastomers" $119,950 as a co-PI (50%).
2018 – 2019	UCONN-START. "Scalable, low-cost and targeted nanodisc: A universal oral drug carrier for cancer therapy" $10,000.00 as a PI.
2017 – 2018	Boehringer-Ingelheim Inc. "Controlling Drug Crystals through Microemulsion" $50,000.00 as a PI.
2016 – 2019	Moderna Therapeutics Inc., "Design and Characterization of RNA lipid nanoparticles" - $ 255,000.00 as a PI.
2016 – 2019	NSF (CBET-Biomedical Engineering), "Collaborative Research: Advanced Biomanufacturing of Functional Bionanoparticles for Biomedical Engineering Applications" (#1604826) - $ 321,177.00 as a co-PI.
2016 – 2019	NSF (CBET-Particulate & Multiphase Processes), "$(NANO)^2$: gold nanoclusters in lipid nanodiscoidal bicelles as a potential nanodiagnostic platform: experiment and computer modeling" (#1605971) - $ 369,482.00 as a PI.
2016 – 2017	UCONN Research Excellent Program, "Scalable One-Pot Theranostic Nanodiscs Formulations for Cancer Targeting" - $ 50,000.00 as a PI.
2017	Pfizer Inc. "Characterization of drug in microemulsion" $10,000 as a PI
2015 – 2018	Department of Education (GAANN), "Multi-functional Polymer Based Materials – Derived and Learned from Nature" (P200A150330) - $ 966,713 (including matching fund) as a co-PI.
2015 – 2018	NSF (CBET-Nanobiosensing), "UNS: Signal-Amplification for Instrument-Free, Multiplexed Immunoassay - a Generalized Platform for Biosening" (#1510468) - $ 300,413 as a co-PI.
2014 – 2015	NSF (CBET-Interfacial Process & Thermodynamics), "EAGER: The Effects of Molecular Architectures on Lipid-Based Nanoparticulate Interaction through Polymer Linkers" (#1433903) - $ 149,992 as a PI.

2012 – 2014	NSF (MRI-DMR), "MRI: Acquisition of a State-of-the-Art Small Angle X-Ray Scattering (SAXS) Instrument for Research and Education" (#1228817) – $568,398 (Total: $811,997 with 30% cost sharing from UConn) as a PI
2012 – 2014	NSF (CMMI-Nanomanufacturing), "Single-Step Manufacture of Affinity Nanodiscs for Drug Delivery" (#1131587) – $387,249 as a PI
2011 – 2012	UConn Faculty Large Grant, "Investigation on structural transformation from nano-discs to unilamellar vesicles" (FRS#443360) - $ 25,156 as a PI
2004 – 2006	AFMNet "Developing monodisperse spontaneous unilamellar vesicles of phospholipid mixtures" – ($ 65,000/ year), as a key researcher
2001 – 2004	Visiting Fellowship, Natural Sciences & Engineering Research Council, Canada ($40,000/year)

ADVISEES:

PhD

Year	Name	Current Position
2010 – 2014	Hyun-Sook Jang	Quantum Science, UK
2010 – 2017	Ying Liu	Xenocs, PRC
2012 – 2015	Wafa Aresh	Imam Muhammad bin Saud Islamic University (Assistant Professor), Saudi Arabia
2012 – 2016	Yan Xia	76Bio, Boston, MA, (Research Director) USA
2014 – 2019	Armin Tahmasbi Rad	Encapsulate (CEO), USA
2015 – 2022	Justin Fang	Beam Therapeutics, USA
2015 – 2023	Behrad Kangarlou	(back to Iran)
2018 – 2023	Chung-Hao Liu	Postdoctoral Researcher at ORNL
2015 – now	Ibtihal Alahmadi	(back to Saudi Arabia)
2015 – 2023	Donyeil Hoy	AstraZeneca
2016 – 2023	Catherine Cheu	BNL
2022 – now	Justin Amengual	
2023 – now	Muhammad Faheem Hassan	

MS

Year	Name
2010 – 2014	Ming Li
2013 – 2015	Yue Bao
2013 – 2015	Chenlu Yu
2015 – 2017	Amani Ebrahim
2022 - 2024	Luke Notaro-Roberts

AWARDS TO ADVISEES:

Year	Recipient	Award
2022	Chung-Hao Liu	IMS Samuel J. Huang Graduate Research Award
2021	Behrad Kangarlou	IMS Annual Meeting top presenter
2019	Patrick Adamczyk	*SURF: Construction of an RNA-Bicelle Composite*

2019	Armin T. Rad	*Entrepreneur of the year in CT Entrepreneurship award, Honorable Mention Pre-revenue Venture of the Year*
2019	Capstone Design Team	*The first place at CBE* (out of 19 teams, mentored by A. Rad)
2018	Armin T. Rad	*Winner of the CTNext Connecticut Innovation Grant, $10,000 award*
2018	Armin T. Rad	*One of the top five companies for Wolff institute grant money 2019, $20,000 award*
2018	Armin T. Rad	*Granted by Third Bridge Grant as a seed funding for the company, "Encapsulate", for $30,000*
2018	Armin T. Rad	*First Place winner of the 3-minute thesis (3MT) university competition and UConn's representative for U21 international 3MT competition*
2018	Armin T. Rad	*Best Ph.D. Dissertation Award, UConn Graduate School. Awarded a $2,000 scholarship.*
2018	Armin T. Rad	*Funded I-Corp Grant: NSF Program through "Summer Fellowship" from "Connecticut Center for Entrepreneurship and Innovation", Summer 2018, $15,000 grant and entrepreneurial 3 months program (May-Aug 2018)*
2018	Armin T. Rad	*Funded I-Corp Grant: NSF Program through "Accelerate UConn" in the spring 2018 cohort, 3K grant and entrepreneurial 2 months program (February-April 2018)*
2017	Sricharan Kadimi	*SURF: Development of Lipid Bicelles as Self-Assembling siRNA Delivery Vehicles*
2017	Armin T. Rad	*Awarded as the most marketable idea of the year at 3rd annual competition of UConn School of Engineering Graduate Students Symposium*
2017	Donyeil Hoy	*NSF-GRFP: Design Well-defined Structure of Lipid Nanoparticles containing Carbon-Derived Materials for Biomedical Applications*
2016	Christopher Tricard	*SURF: Enhanced Photodynamic Efficacy of Porphyrin by Nanodisc Encapsulation*
2015	Justin Letendre	*SURF: Lipid-Coated Quantum Dots: A Novel In-Vivo Imaging Probe*
2014	Kamil Charubin	*SURF: Differential Scanning Calorimetry Study on the Lipid Transfer between Lipid-Based Nanodiscs*
2013	Milos Atz	*SURF: A Study of Amyloid Protein Aggregation Kinetics*